Go to SUP 4

ELECTRICAL SYSTEM

SECTION EL

When you read wiring diagrams:
- **Read GI section, "HOW TO READ WIRING DIAGRAMS".**

When you perform trouble diagnoses, read GI section, "HOW TO FOLLOW FLOW CHART IN TROUBLE DIAGNOSES" and "HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT".
- **Check for any service bulletins before servicing the vehicle.**

MODIFICATION NOTICE:

- CAN system has been adopted (TB48 engine models with A/T).
- Wiring Diagram has been changed.

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IDX

Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER” used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. The SRS system composition which is available to NISSAN MODEL Y61 is as follows (The composition varies according to the destination and optional equipment.):

- For a frontal collision
  The Supplemental Restraint System consists of driver air bag module (located in the center of the steering wheel), front passenger air bag module (located on the instrument panel on passenger side), seat belt pre-tensioners, a diagnosis sensor unit, warning lamp, wiring harness and spiral cable.
- For a side collision
  The Supplemental Restraint System consists of front side air bag module (located in the outer side of front seat), satellite sensor, diagnosis sensor unit (one of components of air bags for a frontal collision), wiring harness, warning lamp (one of components of air bags for a frontal collision).

Information necessary to service the system safely is included in the **RS section** of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance should be performed by an authorized NISSAN dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the RS section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow harness connector.**

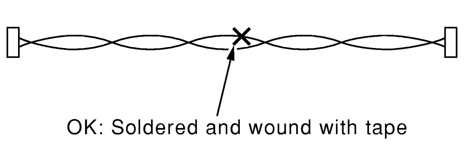
Precautions for Trouble Diagnosis

CAN SYSTEM

- **Do not apply voltage of 7.0V or higher to the measurement terminals.**
- **Use the tester with its open terminal voltage being 7.0V or less.**

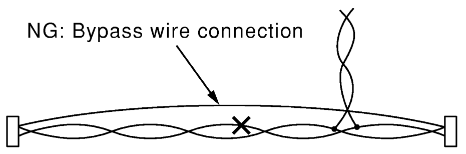
Precautions for Harness Repair

CAN SYSTEM



PKIA0306E

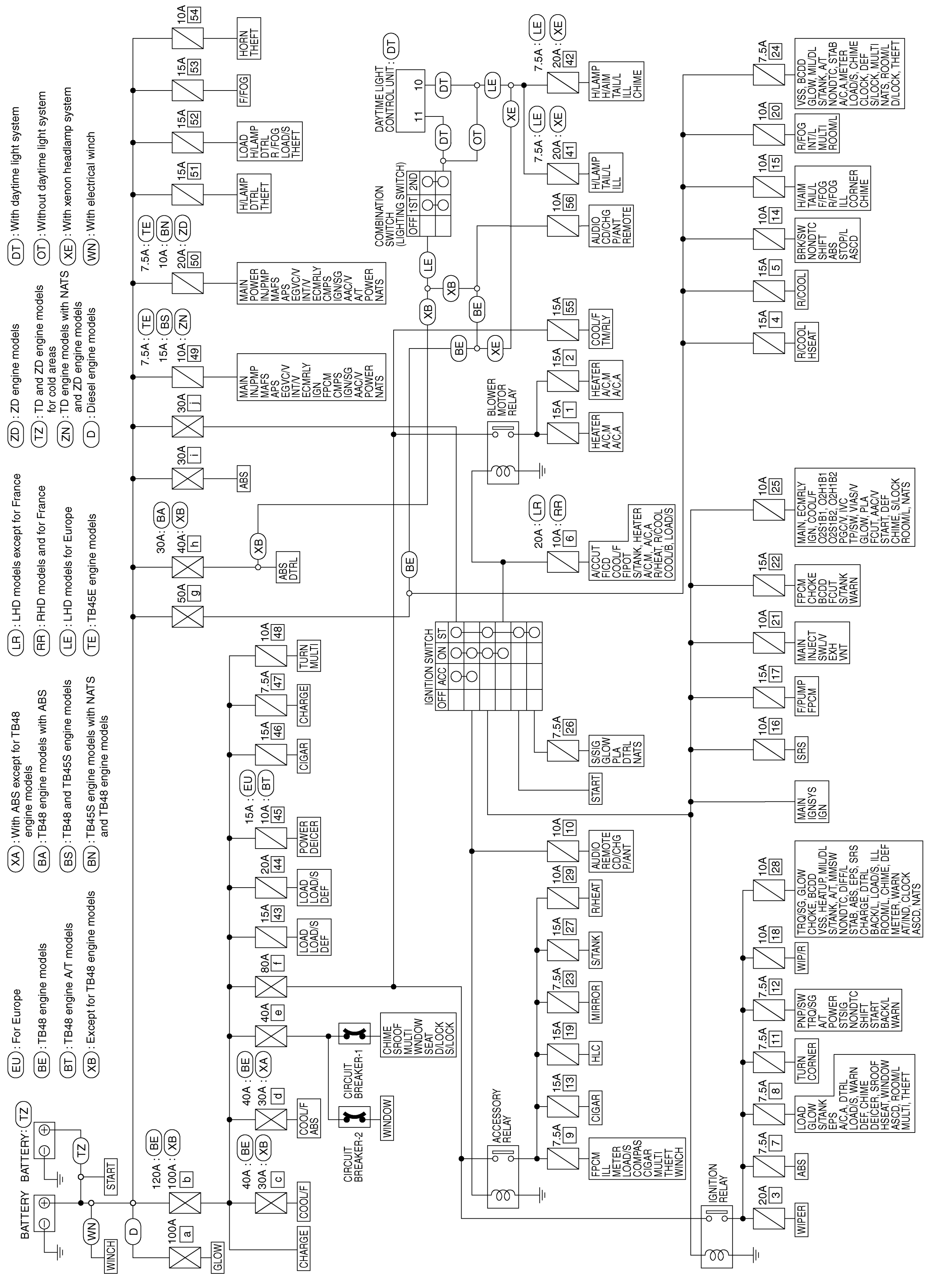
- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in)]



PKIA0307E

- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)

Schematic

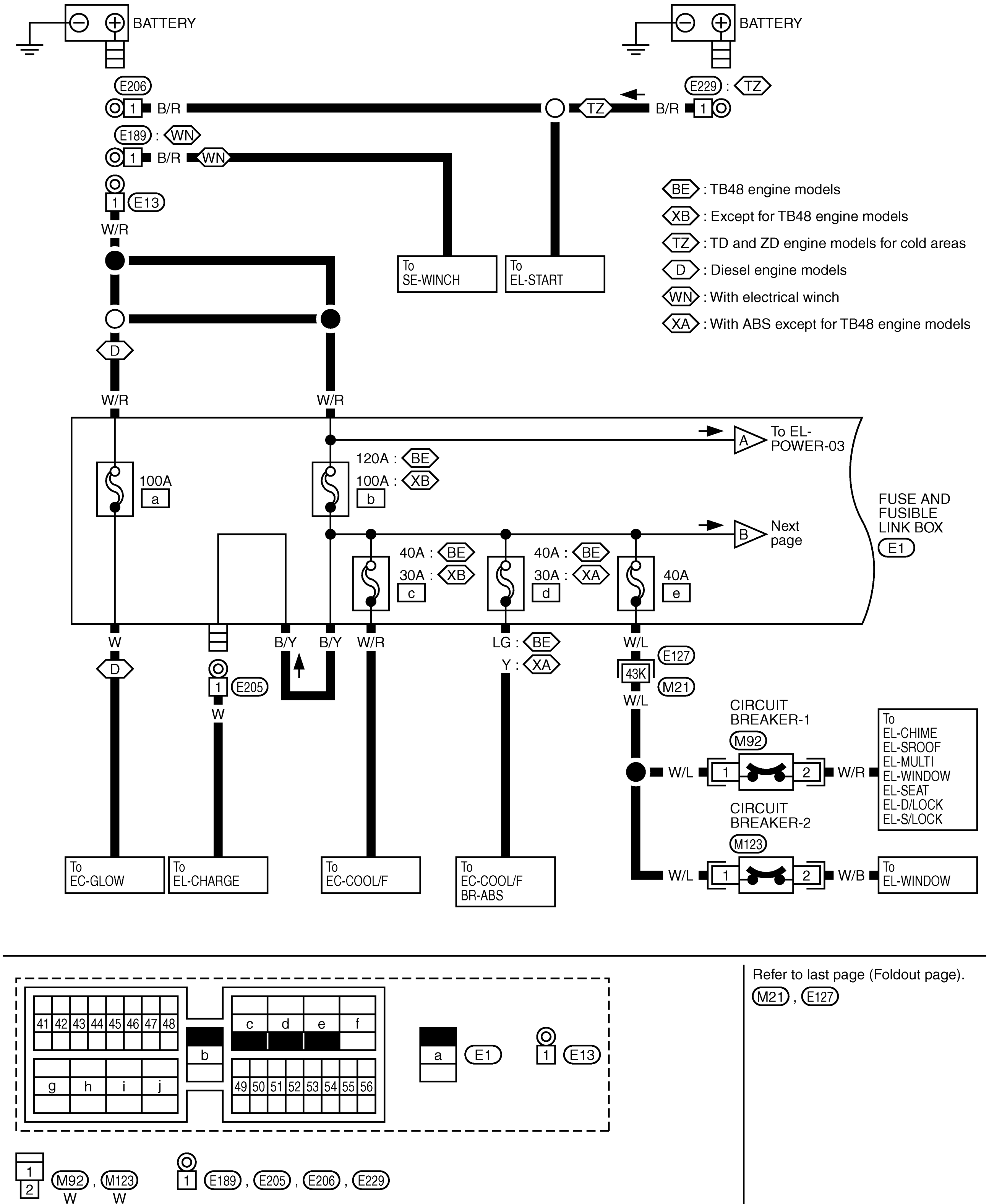


TEL501M

Wiring Diagram — POWER —

BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

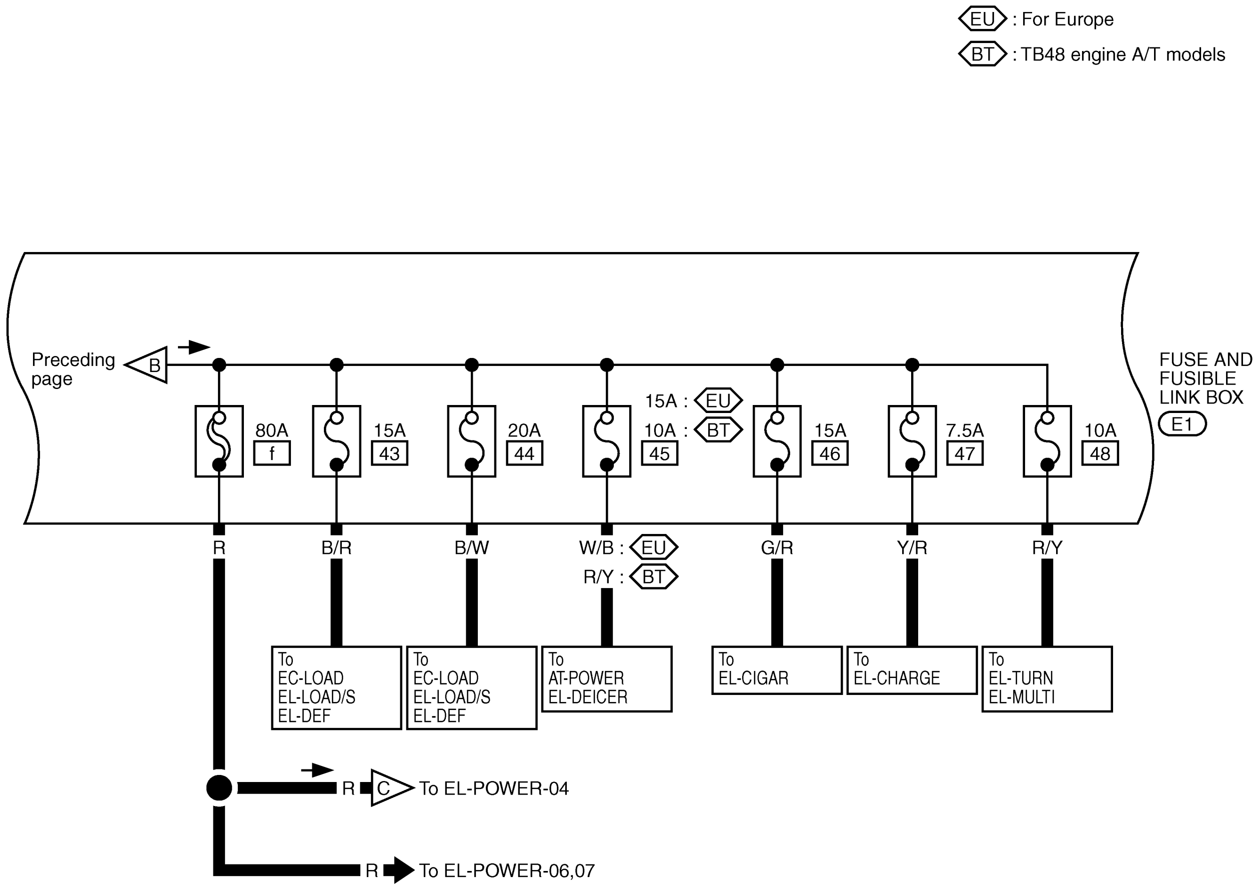
EL-POWER-01

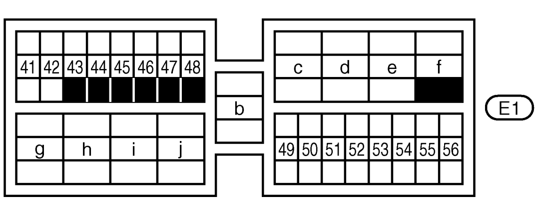


Refer to last page (Foldout page).
M21, E127

Wiring Diagram — POWER — (Cont'd)

EL-POWER-02

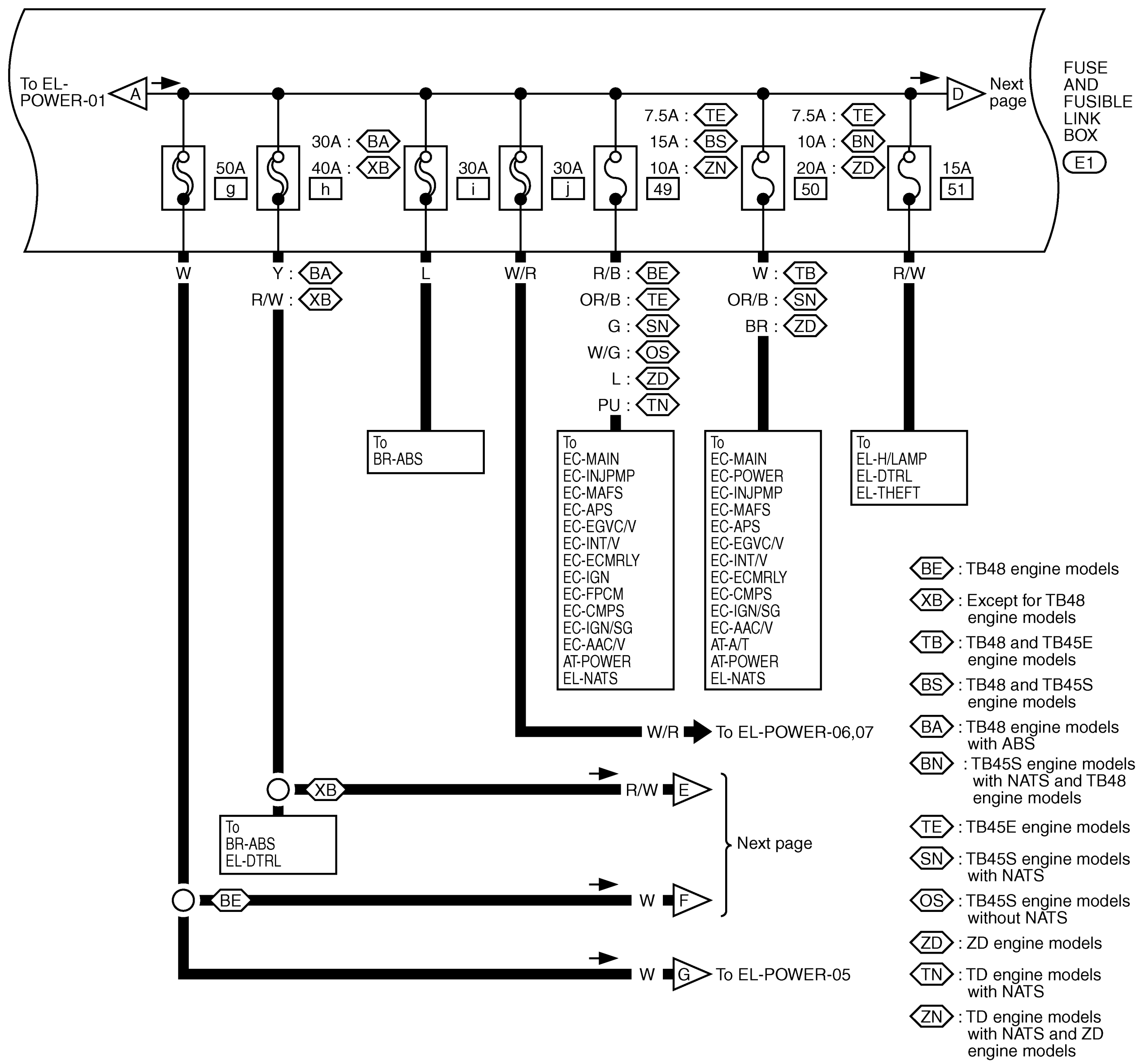


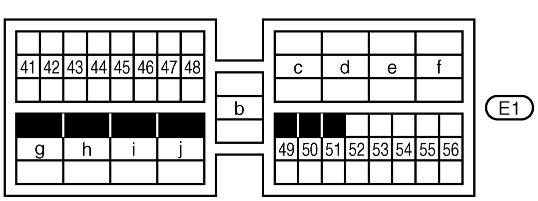


TEL502M

Wiring Diagram — POWER — (Cont’d)

EL-POWER-03

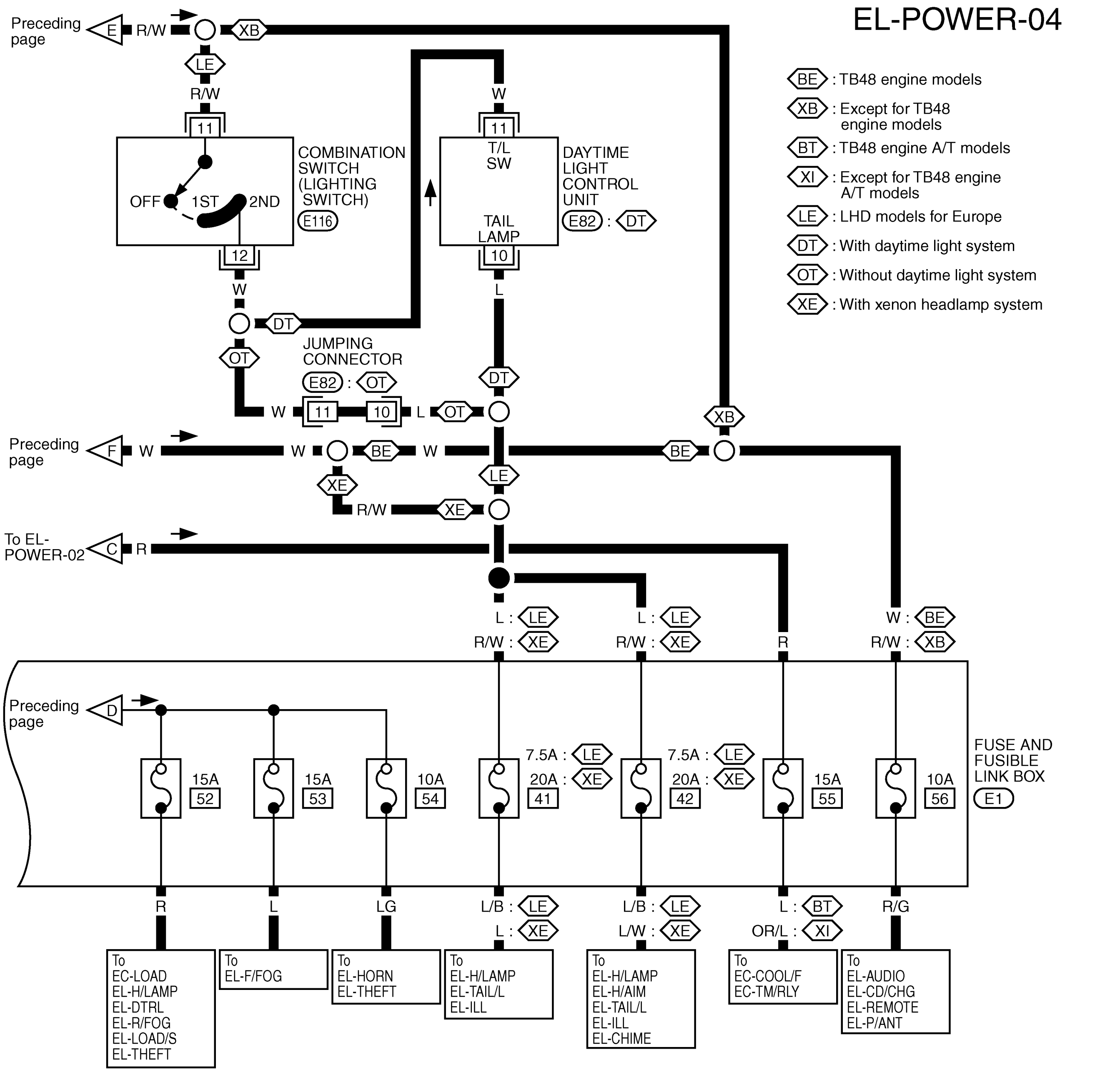


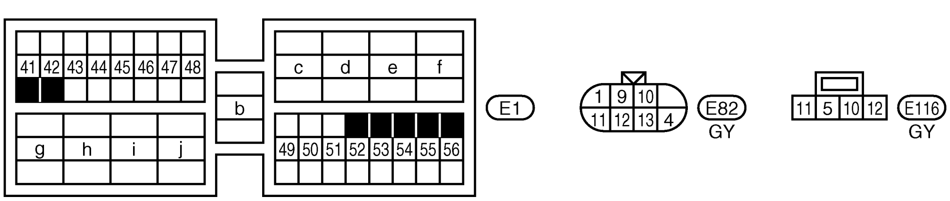


TEL503M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Wiring Diagram — POWER — (Cont'd)

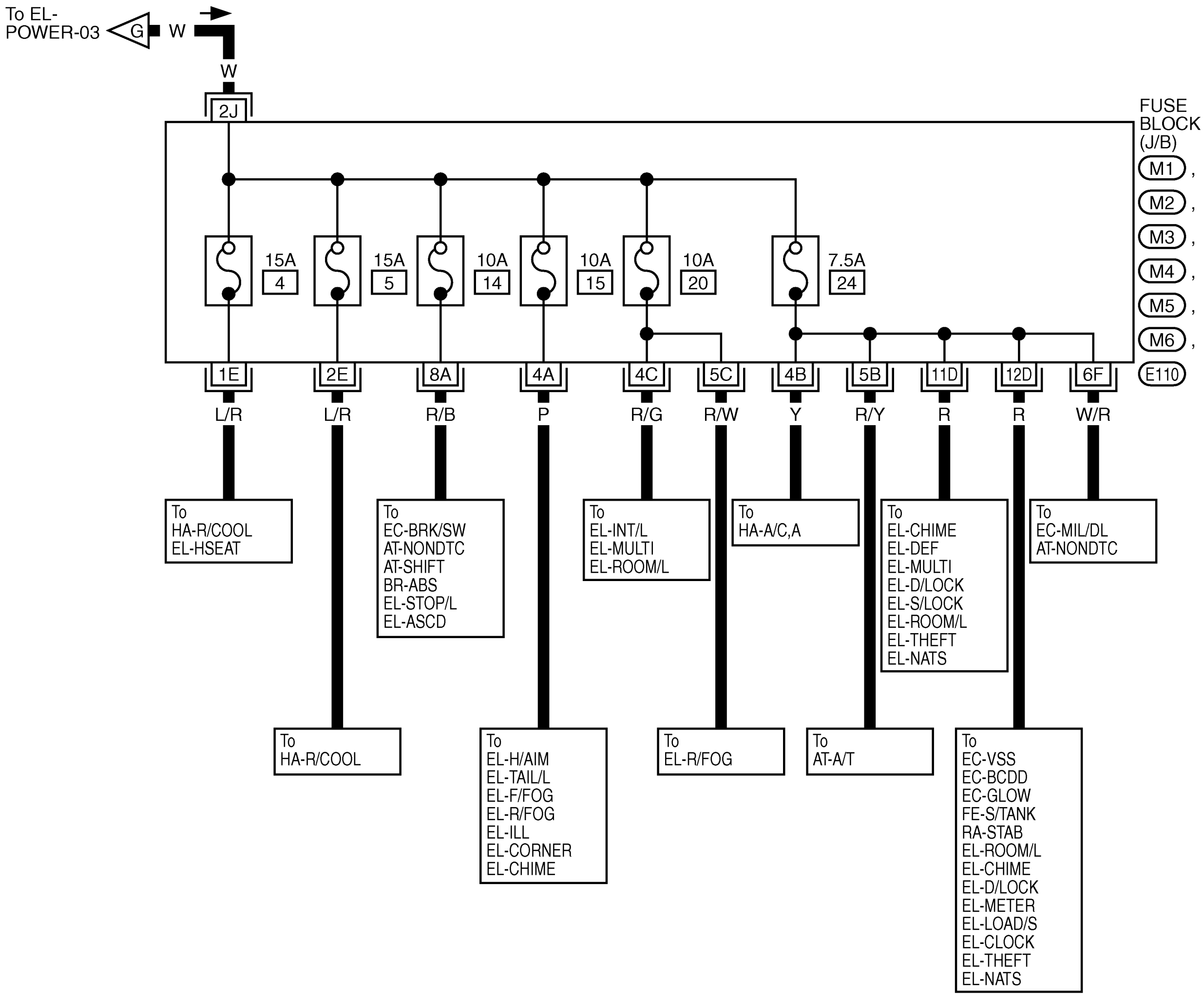




TEL504M

Wiring Diagram — POWER — (Cont'd)

EL-POWER-05



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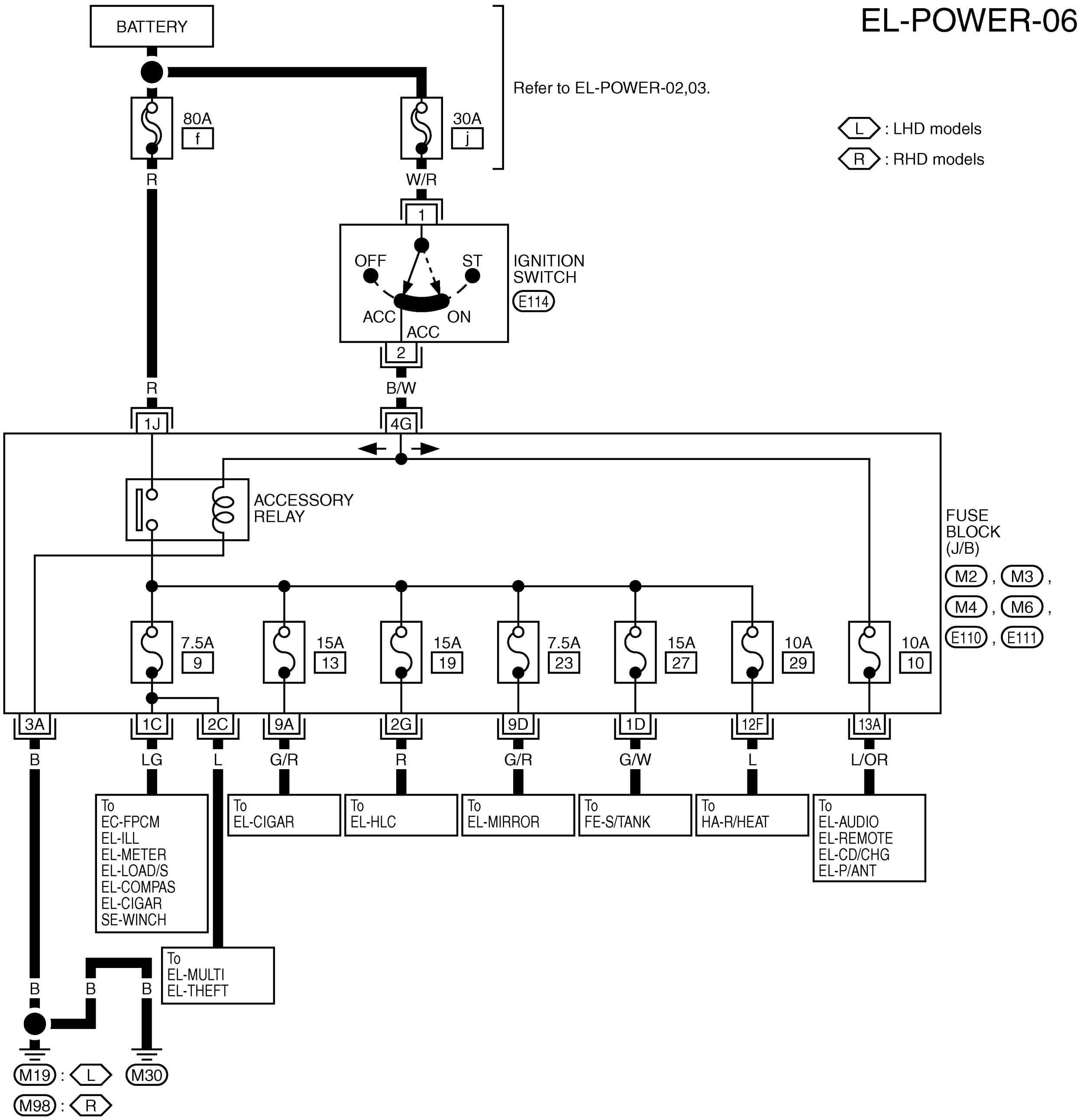
M1, M2, M3, M4, M5, M6, E110

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23		
24	25	26		
27	28	29		

TEL505M

Wiring Diagram — POWER — (Cont'd)

ACCESSORY POWER SUPPLY — IGNITION SW. IN "ACC" OR "ON"

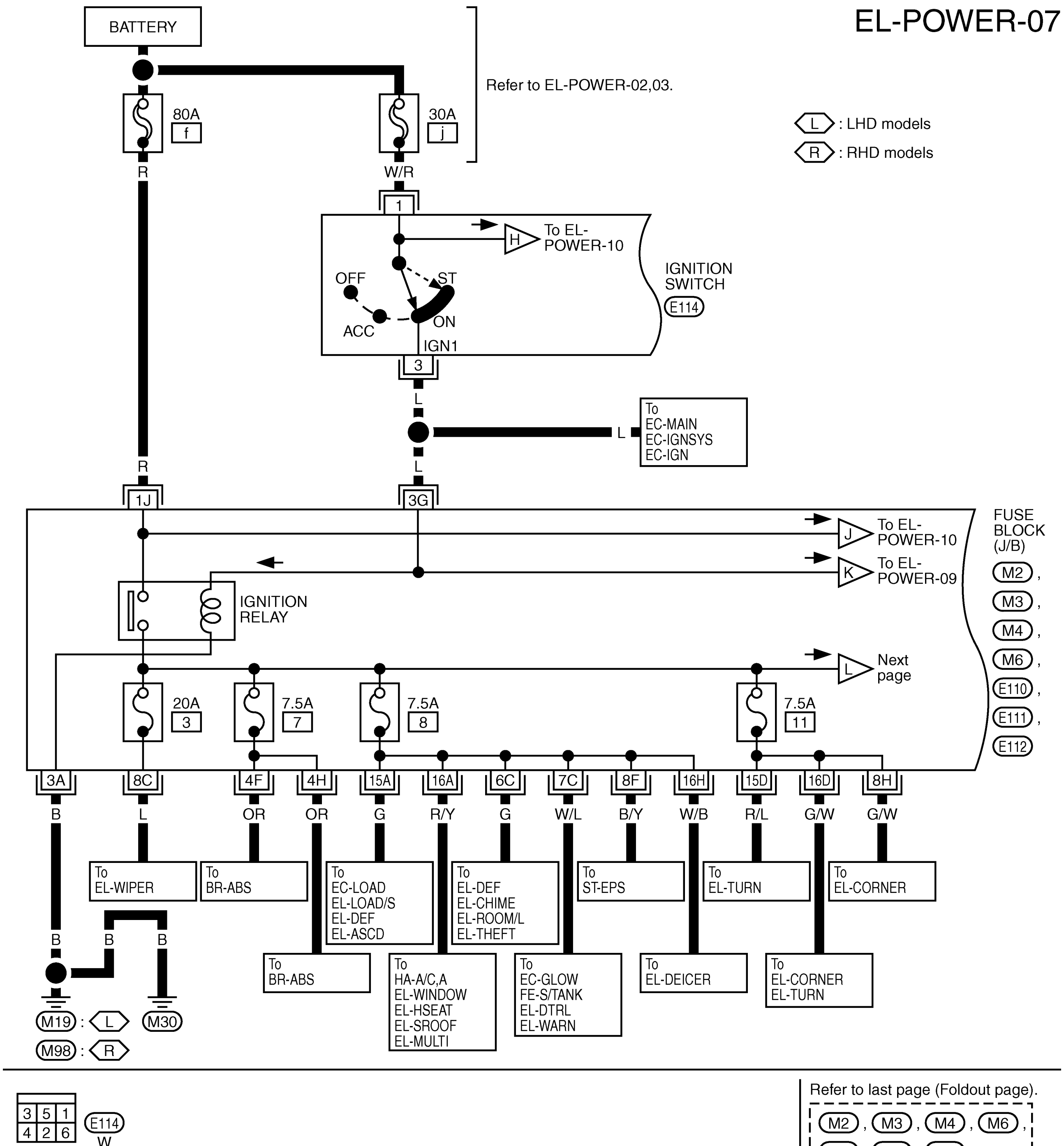




TEL506M

IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START"

EL-POWER-07

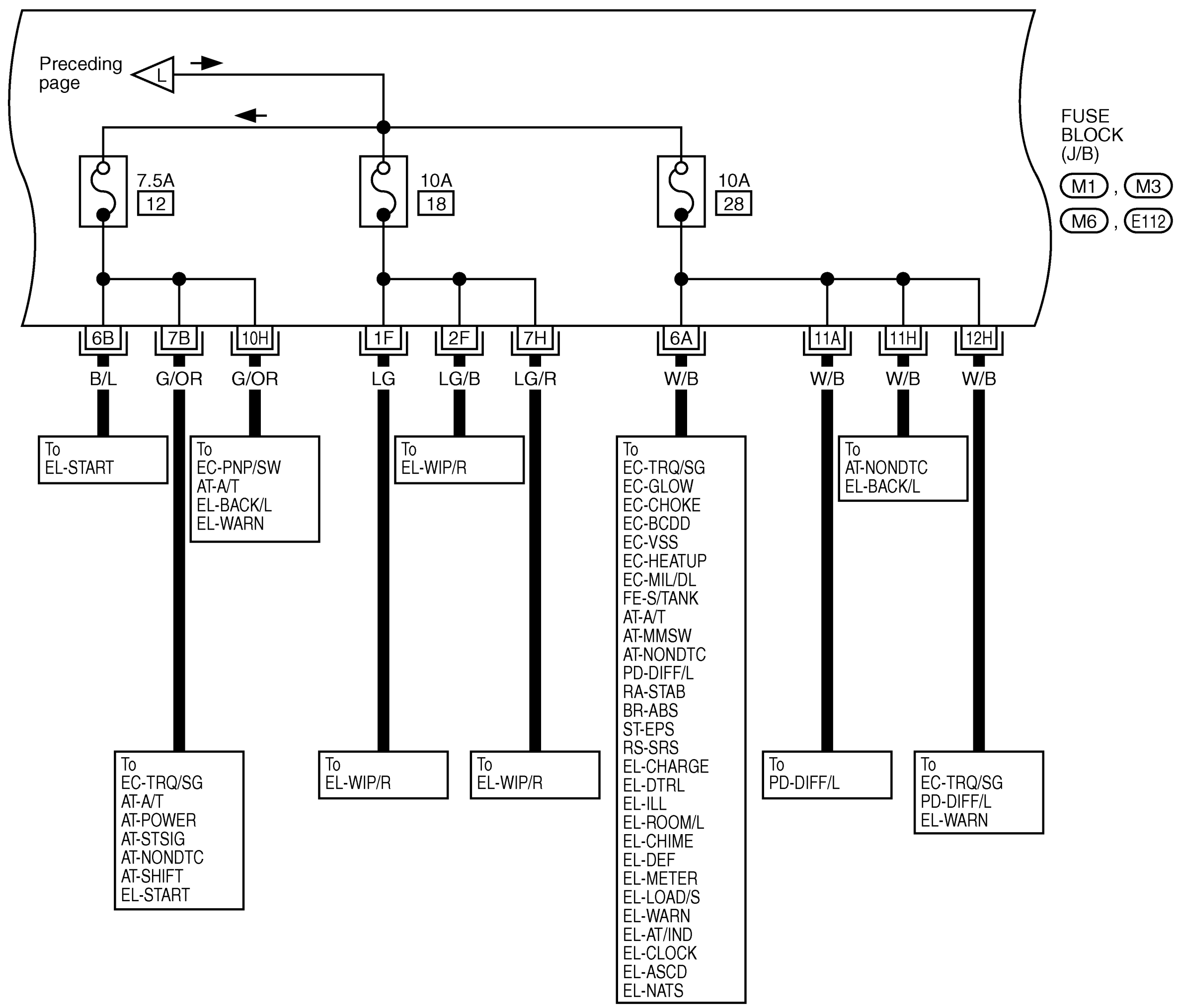


1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23		
24	25	26		
27	28	29		

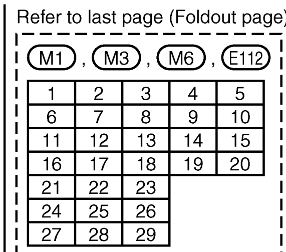
TEL618M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

EL-POWER-08



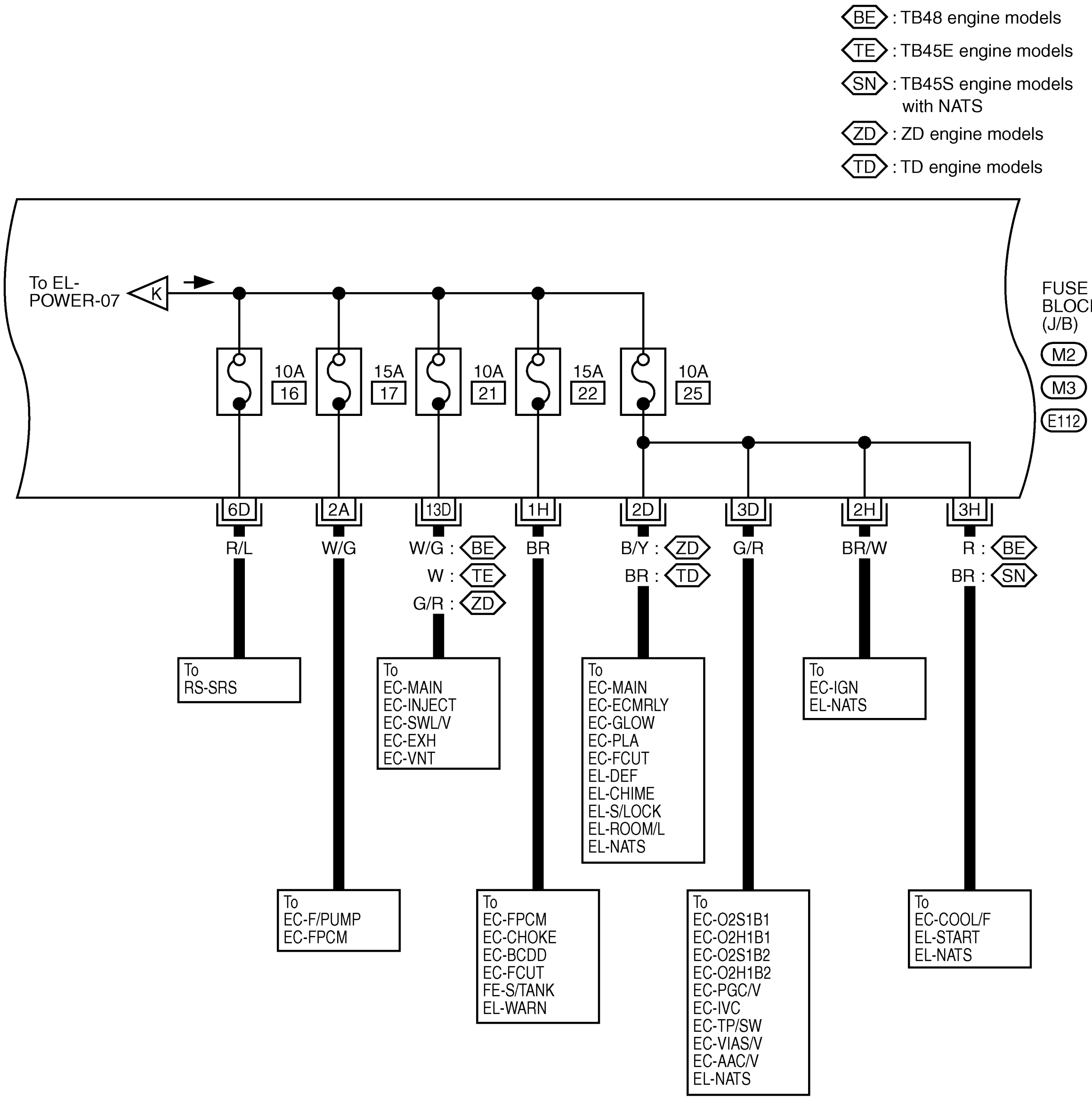
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TEL507M

Wiring Diagram — POWER — (Cont'd)

EL-POWER-09



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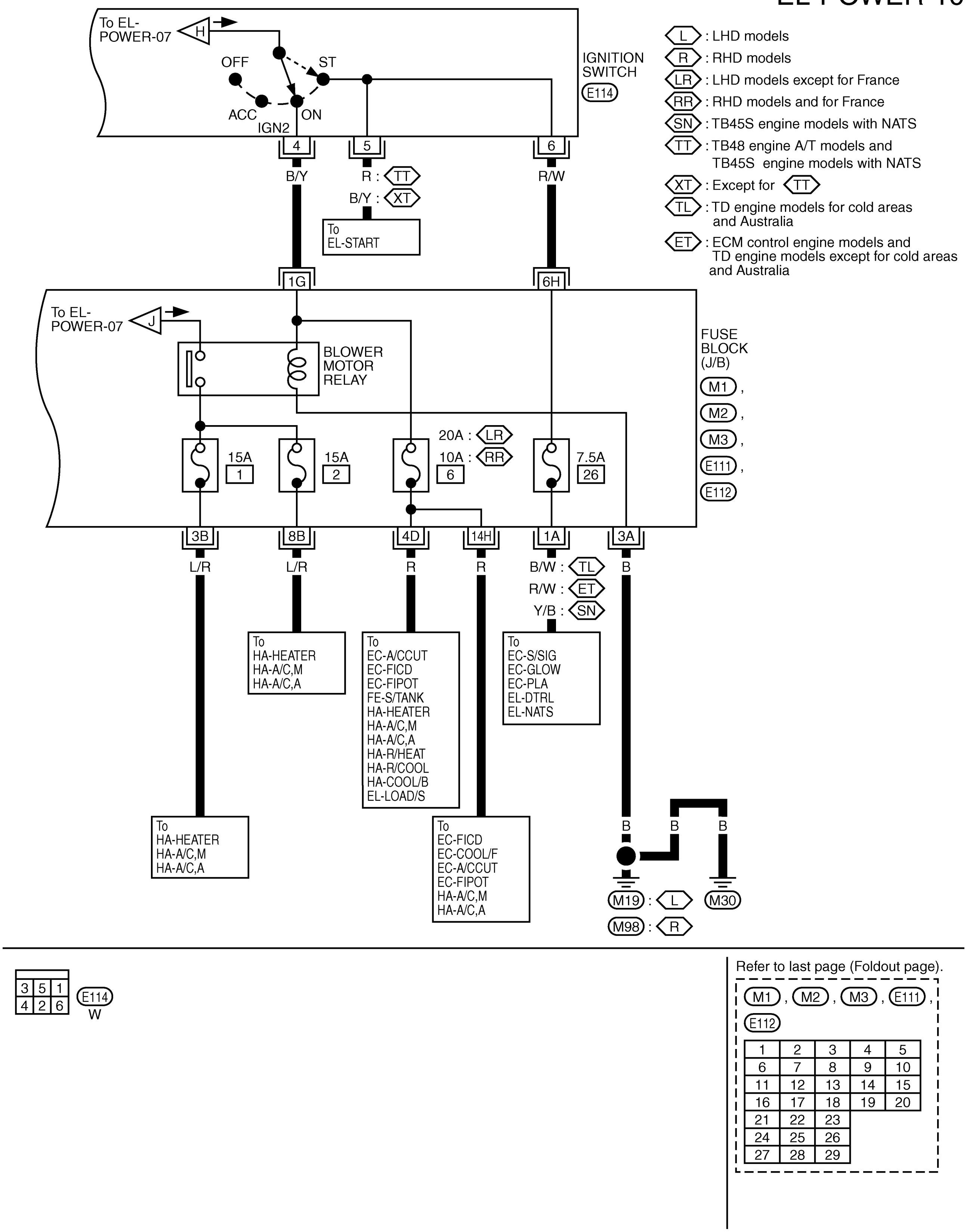
M2, M3, E112

1	2	3	4	5
6	7	8	9	10
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16	17	18	19	20
21	22	23		
24	25	26		
27	28	29		

TEL619M

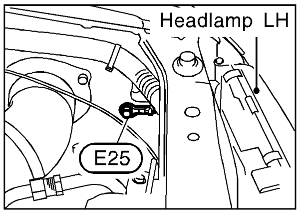
Wiring Diagram — POWER — (Cont'd)

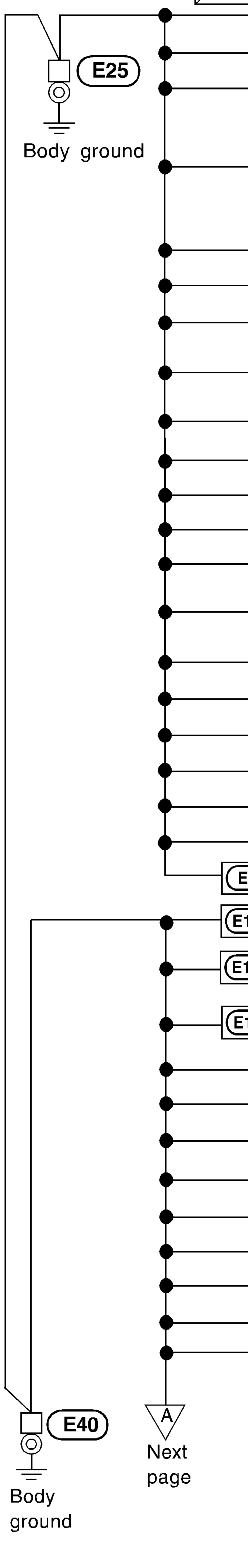
EL-POWER-10



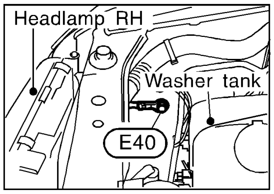
TEL508M

Engine Room Harness/LHD Models



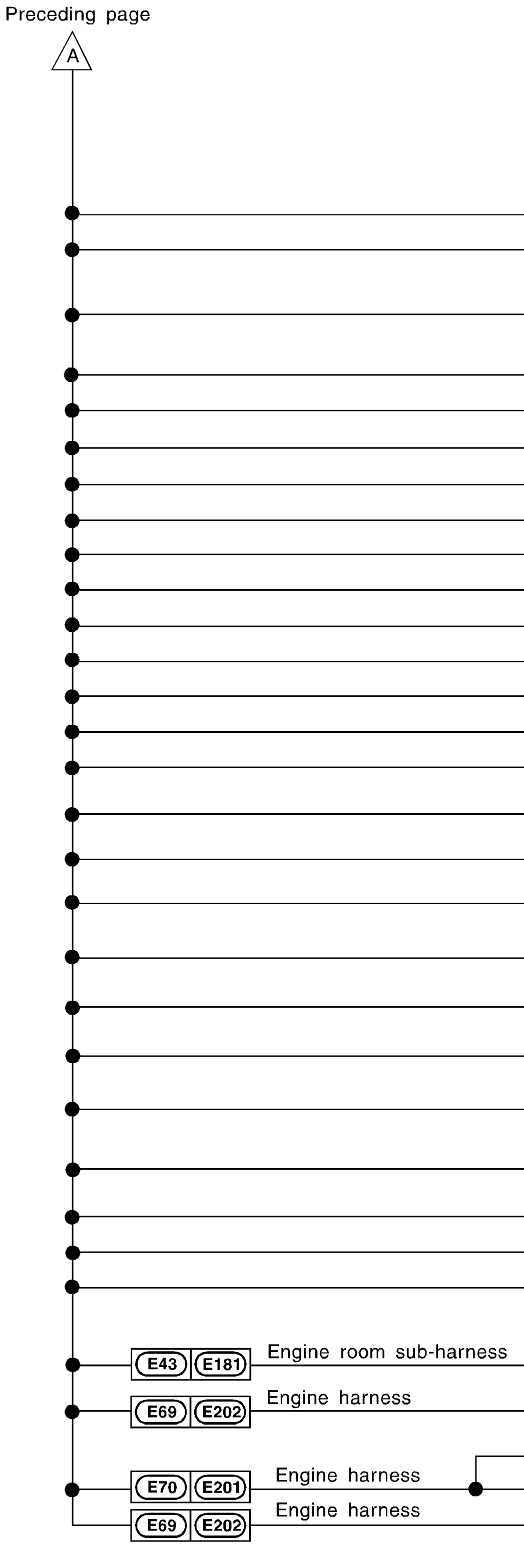


CON-NECTOR NUMBER	CONNECT TO
E10	Diff lock solenoid (Terminal No. 4)
E17	Cooling fan motor-2 (TB48 engine models)
E20	Side turn signal lamp LH
E24	Front combination lamp LH • Parking • Turn signal • Cornering
E26	Headlamp aiming motor LH
E30	Headlamp LH (Without xenon headlamp system)
E31	Distributor (TB45S engine models)
E36	Cooling fan motor-1 (Terminal No. 2) (Except for TB48 engine models)
E36	Cooling fan motor-1 (Terminal No. 4)
E57	Wiper deicer
E58	Front wiper motor
E80	Front fog lamp LH
E84	Headlamp LH (With xenon headlamp system)
E90	Cool box solenoid valve (For the Middle East TB48 and TB45E engine models with cool box)
E118	Combination switch (Rear wiper switch)
E121	Condenser (TB45S engine models)
E150	A/T PV ign relay (TB48 engine A/T models)
E160	Hood switch (OPT) (For Europe)
E164	Cooling fan relay-2 (TB48 engine models)
E166	Cooling fan relay-3 (TB48 engine models)
E230	Csolu (TD engine models with NATS)
M33	Combination meter (Terminal No. 19) (Without ABS for Europe)
M103	NATS IMMU (TD engine models with NATS)
M141	Combination meter (Terminal No. 12) (Without ABS except for Europe)
E4	Cornering lamp relay
E5	Air conditioner relay (Except for TB48 engine models)
E6	Auto-choke relay (TB45S engine models)
E7	Bulb check relay (Except for TB45S engine models)
E10	Diff lock solenoid (Terminal No. 3)
E19	Power antenna
E33	Headlamp wiper motor LH
E37	Cooling fan motor-2 (TB45E engine models)
E38	Headlamp wiper motor RH



CEL285M

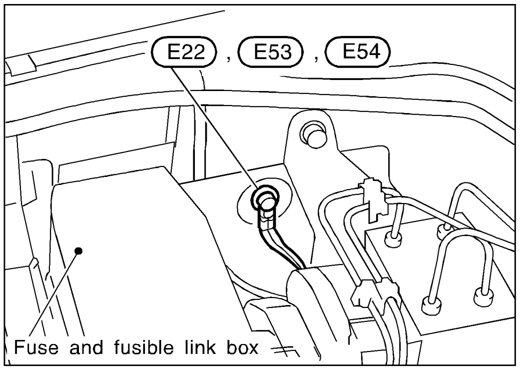
Engine Room Harness/LHD Models (Cont'd)



CON-NECTOR NUMBER	CONNECT TO
E41	Headlamp aiming motor RH
E45	Headlamp RH (Without xenon headlamp system)
E49	Front combination lamp RH • Parking • Turn signal • Cornering
E52	Park/Neutral position relay-1 (A/T models)
E55	Side turn signal lamp RH
E59	Glow relay-1 (TD engine models)
E75	Fuel filter switch (Diesel engine models)
E76	Brake fluid level switch
E79	Front fog lamp RH
E81	Headlamp RH (With xenon headlamp system)
E82	Daytime light control unit
E85	HID relay RH (With xenon headlamp system)
E86	HID relay LH (With xenon headlamp system)
E87	Glow relay-2 (TD engine models for cold areas)
E92	A/C cut relay (TB45S and TD engine models with A/C)
E94	Engine coolant temperature switch-1 (TB45S and TD engine models with A/C)
E96	IACV-FICD solenoid valve (TD engine models with A/C)
E100	ISC-FI POT control solenoid valve (TB45S engine models with A/C)
E119	Combination switch (Front wiper switch) (Without intermittent wiper)
E120	Combination switch (Front wiper switch) (With intermittent wiper)
E147	Park/Neutral position relay-3 (Terminal No. 1) (TB48 engine A/T models)
E147	Park/Neutral position relay-3 (Terminal No. 6) (TB48 engine A/T models)
E151	Ambient air temperature switch (TB48 engine models with front manual A/C and TB45E engine models with rear cooler)
E152	Front fog lamp relay (For China)
E153	Rear fog lamp relay
E160	Hood switch (With theft warning system)
E168	Starter cut relay (TB45S engine models with NATS)
E183	Winch relay
E211	Park/Neutral position switch (ECM control engine M/T models)
E212	4WD switch
E213	Transfer neutral switch
E219	Engine coolant temperature sensor (TD engine models)

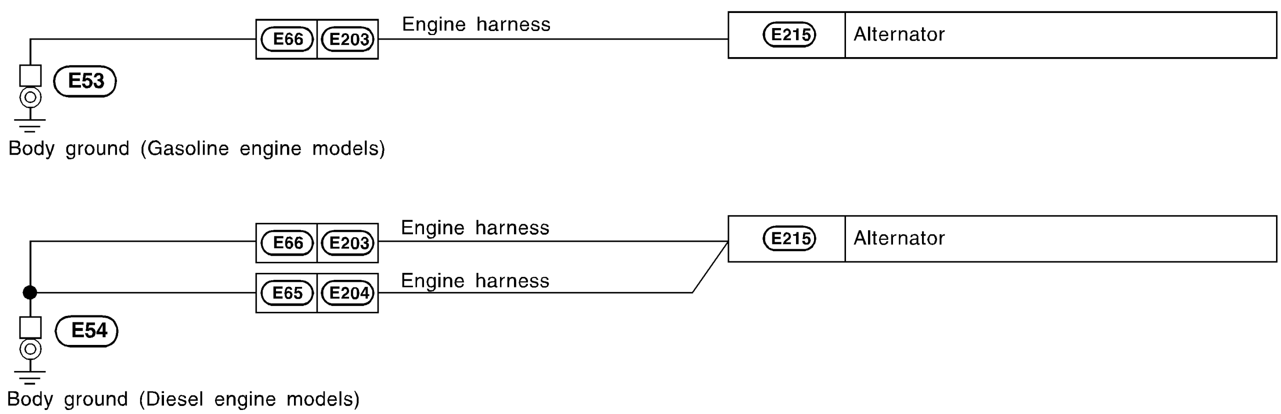
CEL286M

Engine Room Harness/LHD Models (Cont'd)



CON-NECTOR NUMBER	CONNECT TO
E18	ABS actuator and electric unit (Terminal No. 16) • Actuator
E18	ABS actuator and electric unit (Terminal No. 19) • Control unit

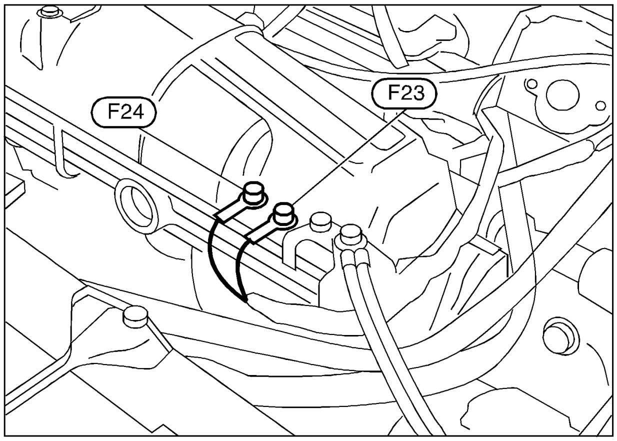


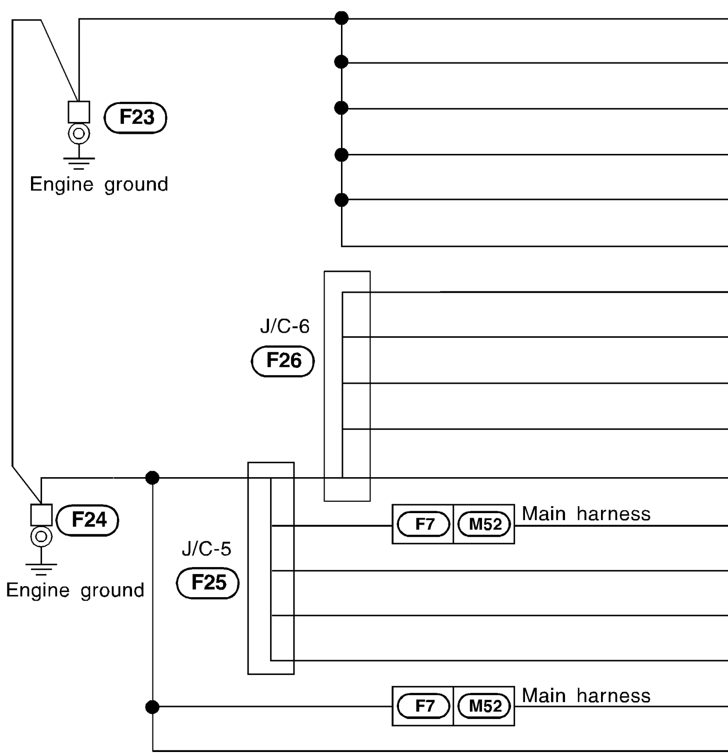


CEL287M

Engine Control Harness/LHD Models

TB45E ENGINE



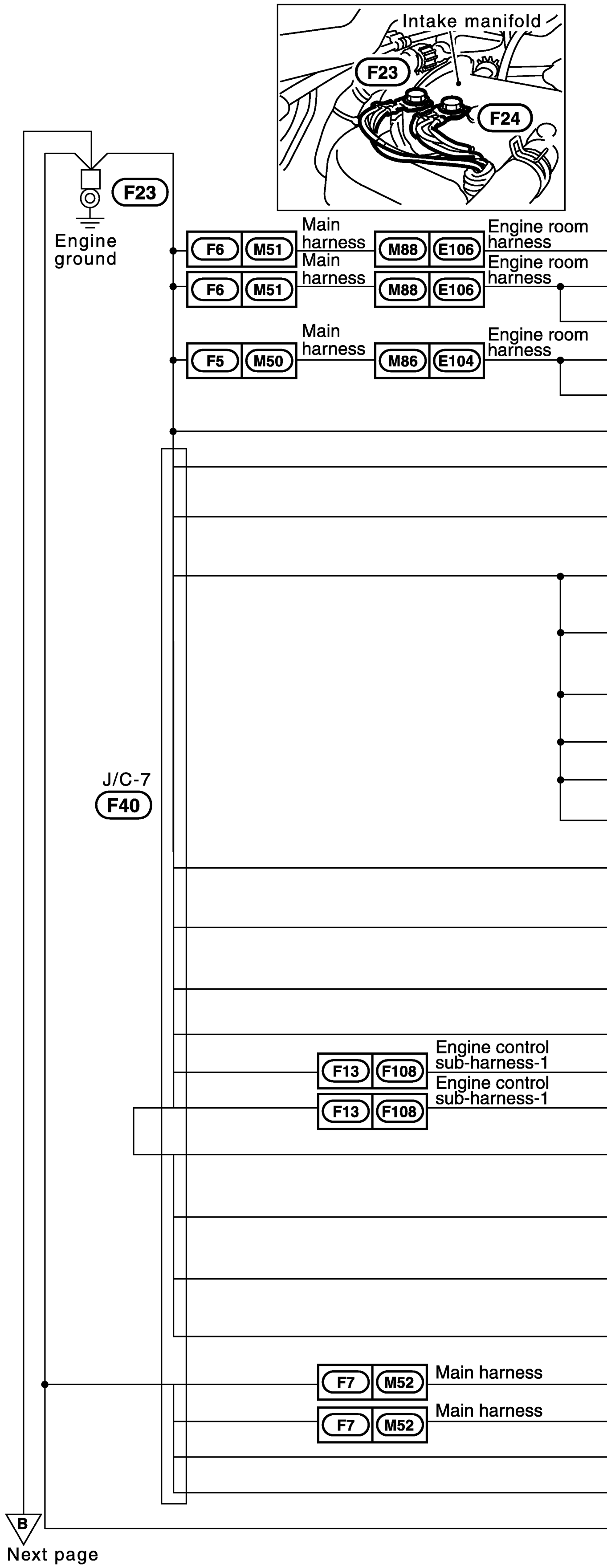


CONNECTOR NUMBER	CONNECT TO
F8	ECM (Terminal No. 10)
F8	ECM (Terminal No. 20)
F8	ECM (Terminal No. 107)
F8	ECM (Terminal No. 108)
F8	ECM (Terminal No. 116)
F22	Distributor (Terminal No. 2)
F8	ECM (Terminal No. 60)
F17	Shield wire (Mass air flow sensor)
F22	Shield wire (Distributor (Camshaft position sensor))
F27	Shield wire (Knock sensor)
F2	Shield wire (Throttle position sensor)
M10	Data link connector (Terminal No. 5)
F4	IACV-FICD solenoid valve (Without rear cooler)
F8	ECM (Terminal No. 50)
F21	Power steering oil pressure switch
M29	NATS IMMU
F22	Distributor (Terminal No. 8)

CEL213M

Engine Control Harness/LHD Models (Cont'd)

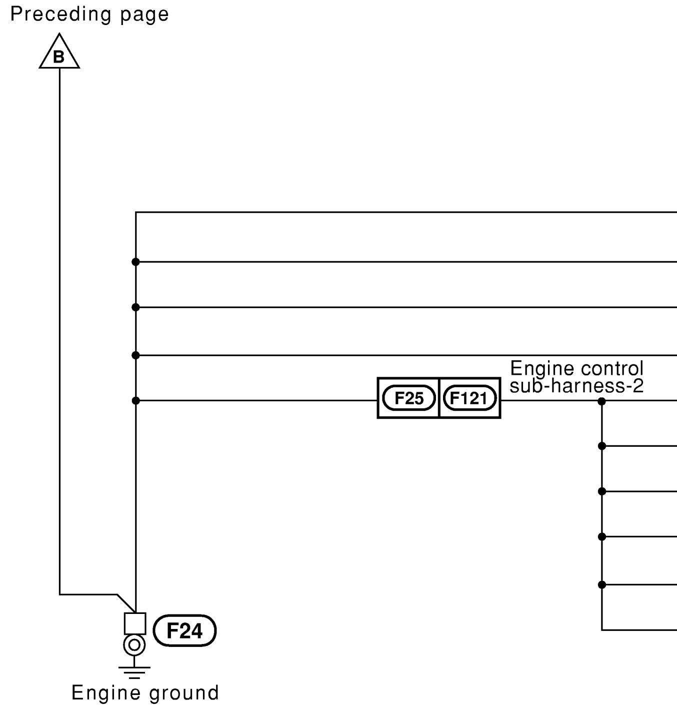
TB48DE ENGINE



CONNECTOR NUMBER	CONNECT TO
E123	Shield wire (TCM (Transmission control module))
E123	TCM (Transmission control module) (Terminal No. 5)
E123	TCM (Transmission control module) (Terminal No. 14)
E123	TCM (Transmission control module) (Terminal No. 24)
E124	TCM (Transmission control module) (Terminal No. 46)
F16	Camshaft position sensor
F2	Shield wire (Throttle position sensor) (M/T models)
F4	Shield wire (Electric throttle control actuator (Accelerator pedal position sensor)) (For circuit from terminal No. 10) (A/T models)
F4	Shield wire (Electric throttle control actuator (Accelerator pedal position sensor)) (For circuit from terminal No. 7) (A/T models)
F4	Shield wire (Electric throttle control actuator (Accelerator pedal position sensor)) (For circuit from terminal No. 9) (A/T models)
F4	Shield wire (Electric throttle control actuator (Accelerator pedal position sensor)) (For circuit from terminal No. 11) (A/T models)
F8	Shield wire (Heated oxygen sensor 1 (B1)) (With three way catalyst)
F9	Shield wire (Heated oxygen sensor 1 (B2)) (With three way catalyst)
F17	Shield wire (Mass air flow sensor)
F10	Shield wire (Electric throttle control actuator (Throttle position sensor)) (For circuit from terminal No. 2) (A/T models)
F10	Shield wire (Electric throttle control actuator (Throttle control motor)) (For circuit from terminal No. 3, 6) (A/T models)
F10	Shield wire (Electric throttle control actuator (Throttle position sensor)) (For circuit from terminal No. 5) (A/T models)
F16	Shield wire (Camshaft position sensor)
F109	Shield wire (Knock sensor-1)
F110	Shield wire (Knock sensor-2)
F4	Shield wire (Electric throttle control actuator (Accelerator pedal position sensor)) (For circuit from terminal No. 8) (A/T models)
F4	Shield wire (Electric throttle control actuator (Accelerator pedal position sensor)) (For circuit from terminal No. 12) (A/T models)
F10	Shield wire (Electric throttle control actuator (Throttle position sensor)) (For circuit from terminal No. 1) (A/T models)
F10	Shield wire (Electric throttle control actuator (Throttle position sensor)) (For circuit from terminal No. 4) (A/T models)
M10	Data link connector (Terminal No. 5)
M29	NATS IMMU
F39	ECM (Terminal No. 165)
F39	ECM (Terminal No. 168)
F21	Power steering oil pressure switch

CEL288M

Engine Control Harness/LHD Models (Cont'd)

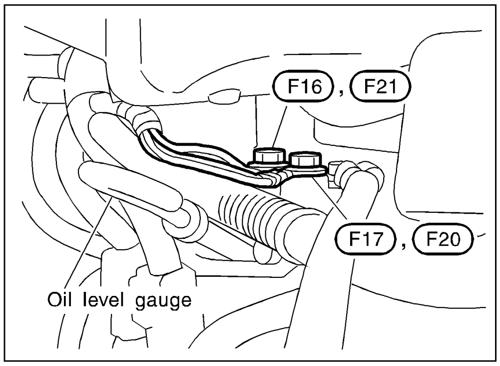


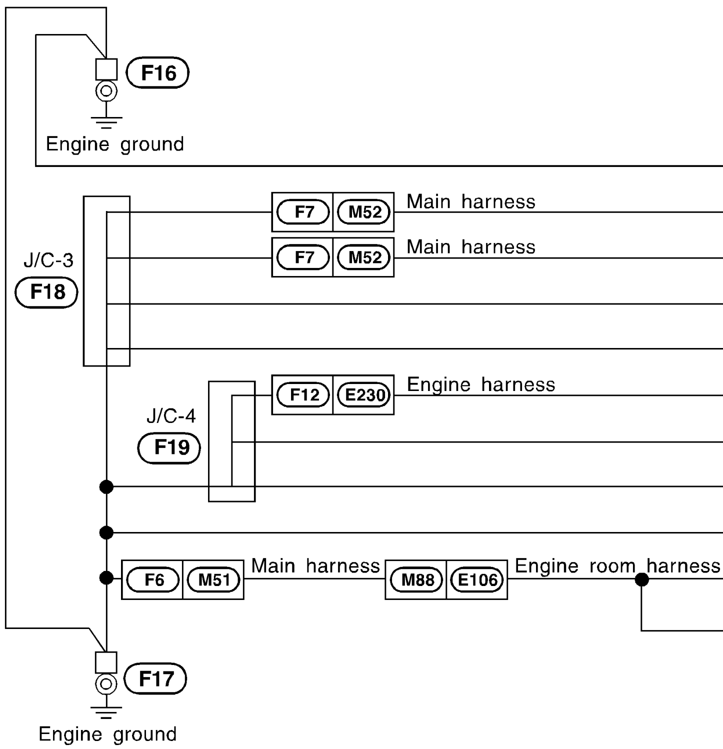
CON-NECTOR NUMBER	CONNECT TO
F29	Condenser
F38	ECM (Terminal No. 153) (A/T models)
F38	ECM (Terminal No. 156)
F38	ECM (Terminal No. 159)
F122	Ignition coil No. 1 (With power transistor)
F123	Ignition coil No. 2 (With power transistor)
F124	Ignition coil No. 3 (With power transistor)
F125	Ignition coil No. 4 (With power transistor)
F126	Ignition coil No. 5 (With power transistor)
F127	Ignition coil No. 6 (With power transistor)

CEL289M

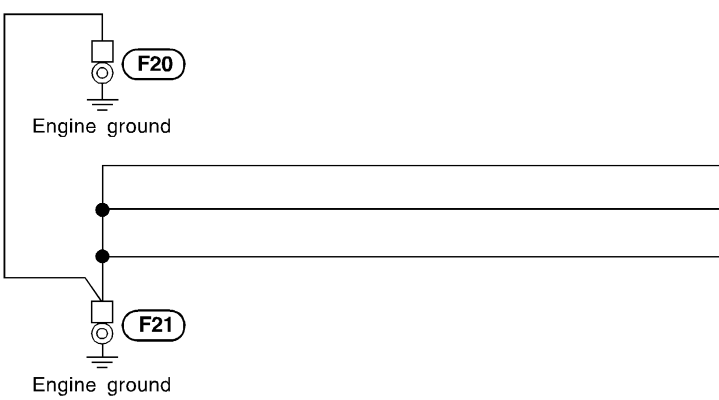
Engine Control Harness/LHD Models (Cont'd)

ZD ENGINE





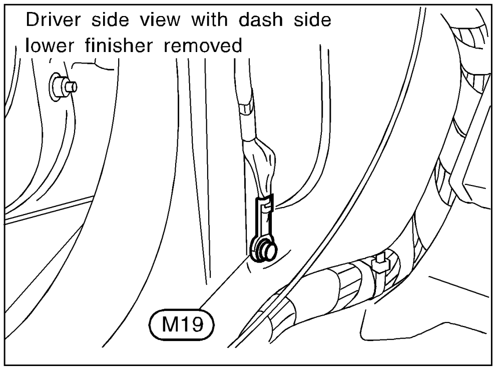
CON-NECTOR NUMBER	CONNECT TO
F4	Electronic control fuel injection pump
M10	Data link connector (Terminal No. 5)
M29	NATS IMMU
F8	ECM (Terminal No. 39)
F14	Accelerator switch (F/C)
E231	Shield wire (Mass air flow sensor)
F2	Shield wire (Accelerator position sensor)
F13	Shield wire (Crankshaft position sensor (TDC))
F8	ECM (Terminal No. 43)
E102	TCM (Transmission control module) (Terminal No. 25)
E102	TCM (Transmission control module) (Terminal No. 48)

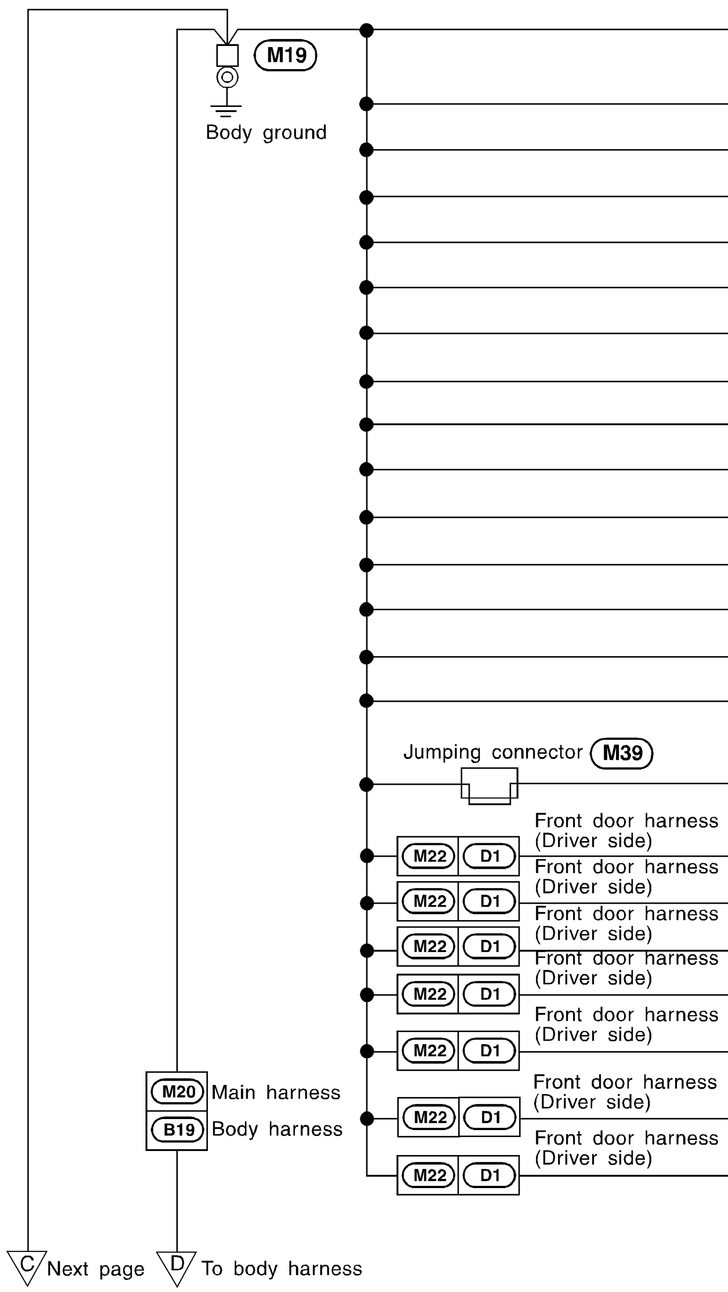


CON-NECTOR NUMBER	CONNECT TO
F8	ECM (Terminal No. 106)
F8	ECM (Terminal No. 112)
F8	ECM (Terminal No. 118)

CEL214M

Main Harness/LHD Models

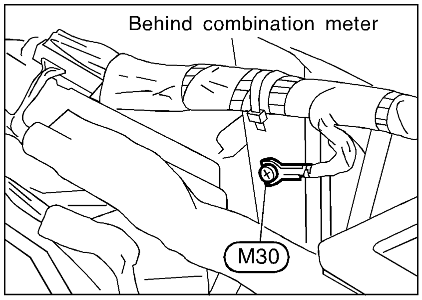


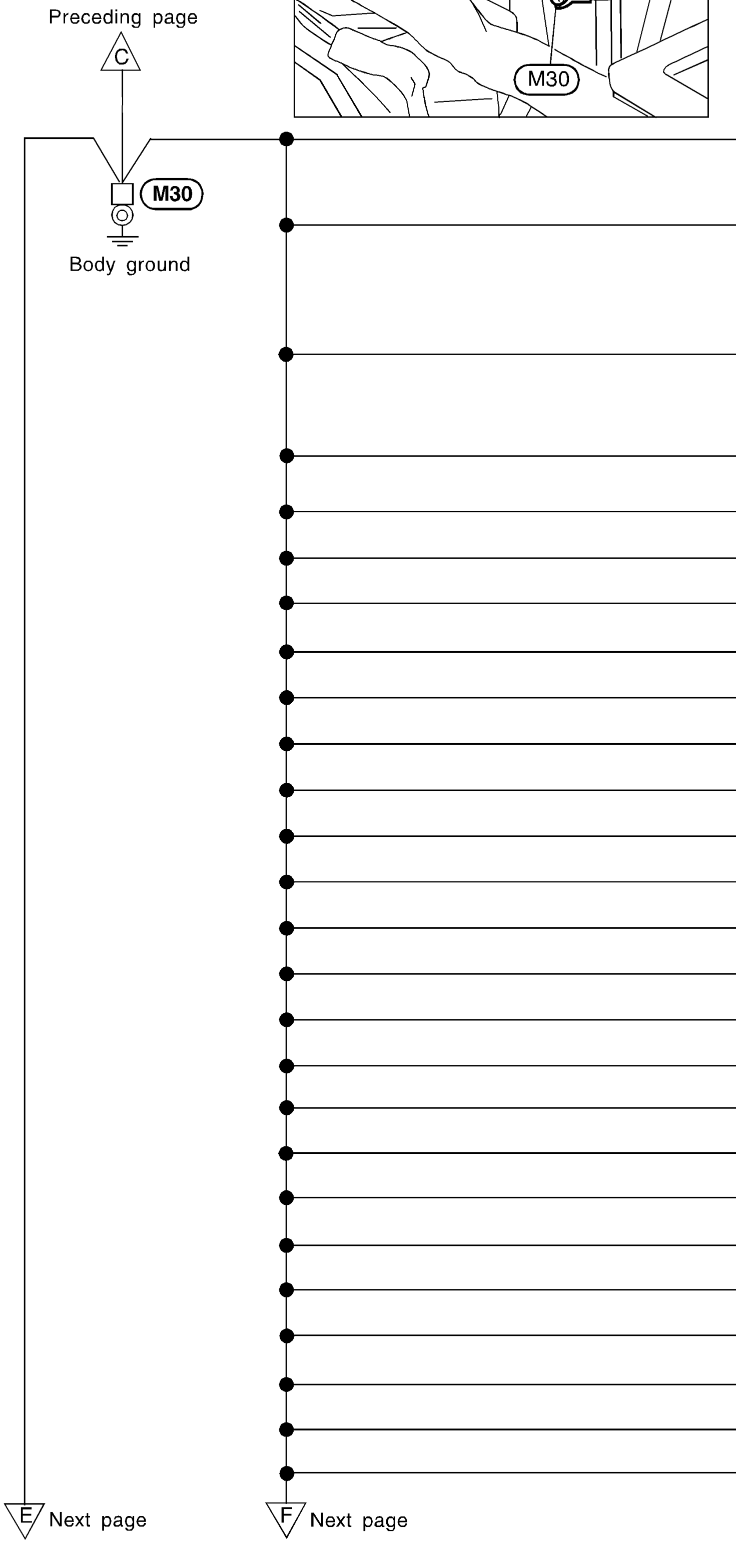


CONNECTOR NUMBER	CONNECT TO
M3	Fuse block (J/B) • Accessory relay • Ignition relay • Blower motor relay
M10	Data link connector (Terminal No. 4) (With CONSULT-II)
M11	Headlamp aiming switch
M13	Heat up switch (Illumination) (Terminal No. 2)
M13	Heat up switch (Terminal No. 4)
M14	Door mirror remote control switch
M17	ASCD control unit
M39	Illumination control switch
M108	Front fog lamp switch (Terminal No. 2)
M108	Front fog lamp switch (Illumination) (Terminal No. 6)
M111	Heated seat relay
M115	Check connector (TB45S engine models)
M116	Fuel pump control module (FPCM) (TB45S engine models)
M117	Super lock control unit
M130	Fuel pump relay (TB45S engine models)
M142	Combination meter (Terminal No. 34) (Without illumination control switch) • Unified meter control unit • Meter illumination (Without fine vision meter)
D3	Door mirror defogger (Driver side)
D5	Power window main switch (Hardtop models)
D6	Front door key cylinder switch (Driver side) (With super lock or theft warning system)
D7	Front door lock actuator assembly LH (Door unlock sensor) (With super lock)
D8	Front door lock switch (Driver side) (Without multi-remote control system except for with super lock)
D9	Front door lock actuator (Driver side) (Door unlock sensor) (With multi-remote control system except for with super lock)
D10	Power window main switch (Wagon models)

CEL290M

Main Harness/LHD Models (Cont'd)



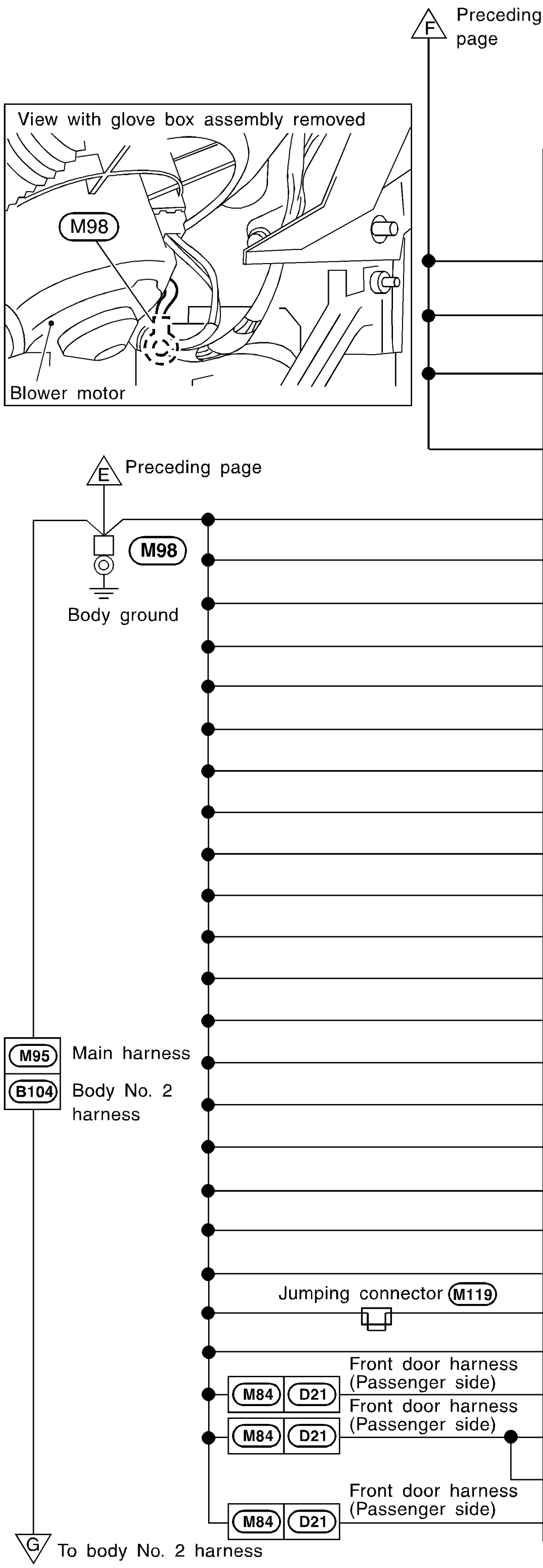


CON-NECTOR NUMBER	CONNECT TO
M29	NATS IMMU (TB45S engine models with NATS)
M32	Combination meter (Terminal No. 5) (For Europe) • Unified meter control unit • Water temp. gauge • Fuel gauge • Air bag warning lamp
M33	Combination meter (Terminal No. 13) (For Europe) • Turn signal indicator • ABS warning lamp • Clock • Rear fog lamp indicator
M33	Combination meter (Terminal No. 20) (For Europe) • High beam indicator
M37	Combination flasher unit
M38	Mode door motor (With front auto A/C)
M40	Air mix door motor (With front auto A/C)
M44	Stabilizer control unit
M46	Rear window defogger switch (Terminal No. 2)
M46	Rear window defogger switch (Indicator) (Terminal No. 4)
M46	Rear window defogger switch (Illumination) (Terminal No. 6)
M47	Headlamp wiper switch (Terminal No. 5)
M47	Headlamp wiper switch (Illumination) (Terminal No. 7)
M48	Sub fuel tank switch (Terminal No. 2)
M48	Sub fuel tank switch (Illumination) (Terminal No. 6)
M49	Hazard switch (Illumination)
M67	Diff lock switch (Illumination)
M69	Sub fuel tank control unit
M100	Stabilizer switch (Illumination)
M126	Smart entrance control unit (With theft warning system)
M136	Door lock and unlock switch (Terminal No. 3)
M136	Door lock and unlock switch (Illumination) (Terminal No. 5)
M137	Sub IMMU (Terminal No. 4) (TB45S engine models with NATS)
M137	Sub IMMU (Terminal No. 8) (TB45S engine models with NATS)
M137	Sub IMMU (Terminal No. 35) (TB45S engine models with NATS)
M137	Sub IMMU (Terminal No. 48) (TB45S engine models with NATS)

CEL291M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Main Harness/LHD Models (Cont'd)

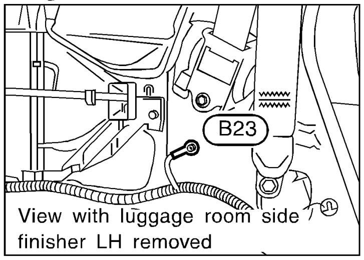


CON-NECTOR NUMBER	CONNECT TO
M140	Door lock relay
M142	Combination meter (Terminal No. 33) (Except for Europe) • Unified meter control unit
M143	Combination meter (Terminal No. 56) (Except for Europe) • Unified meter control unit
M143	Combination meter (Terminal No. 68) (Except for Europe) • Unified meter control unit • High beam indicator • Turn signal indicator
M16	Glow control unit (TD engine models except for cold areas)
M42	Cigarette lighter
M53	Rear heater front switch (Terminal No. 2)
M53	Rear heater front switch (Illumination) (Terminal No. 9)
M54	Air bag diagnosis sensor unit
M61	Rear cooler front switch (Indicator) (Terminal No. 7)
M61	Rear cooler front switch (Illumination) (Terminal No. 9)
M68	Diff lock control unit
M71	Fan switch (With front manual A/C)
M73	Fan switch illumination (With front manual A/C)
M74	Recirculation switch (With front manual A/C)
M75	A/C auto amp. (Terminal No. 3) (With front auto A/C)
M75	A/C auto amp. (Illumination) (Terminal No. 11) (With front auto A/C)
M78	Fan control amp. (With front auto A/C)
M91	Power window relay
M106	Glow control unit (TD engine models for cold areas)
M125	Theft warning horn relay
M129	Multi-remote control unit (Without super lock or theft warning system)
M133	Multi-remote control unit (With super lock)
M141	Combination meter (Terminal No. 8) (Without air bag except for Europe)
M145	Power steering control unit
D23	Door mirror defogger (Passenger side)
D26	Front door key cylinder switch (Passenger side) (With super lock or theft warning system)
D28	Front door lock actuator assembly RH (Door unlock sensor) (With super lock)
D27	Front door lock actuator (Passenger side) (Door unlock sensor) (With theft warning system)

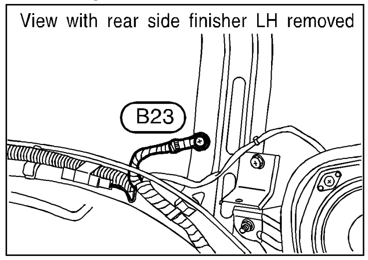
CEL292M

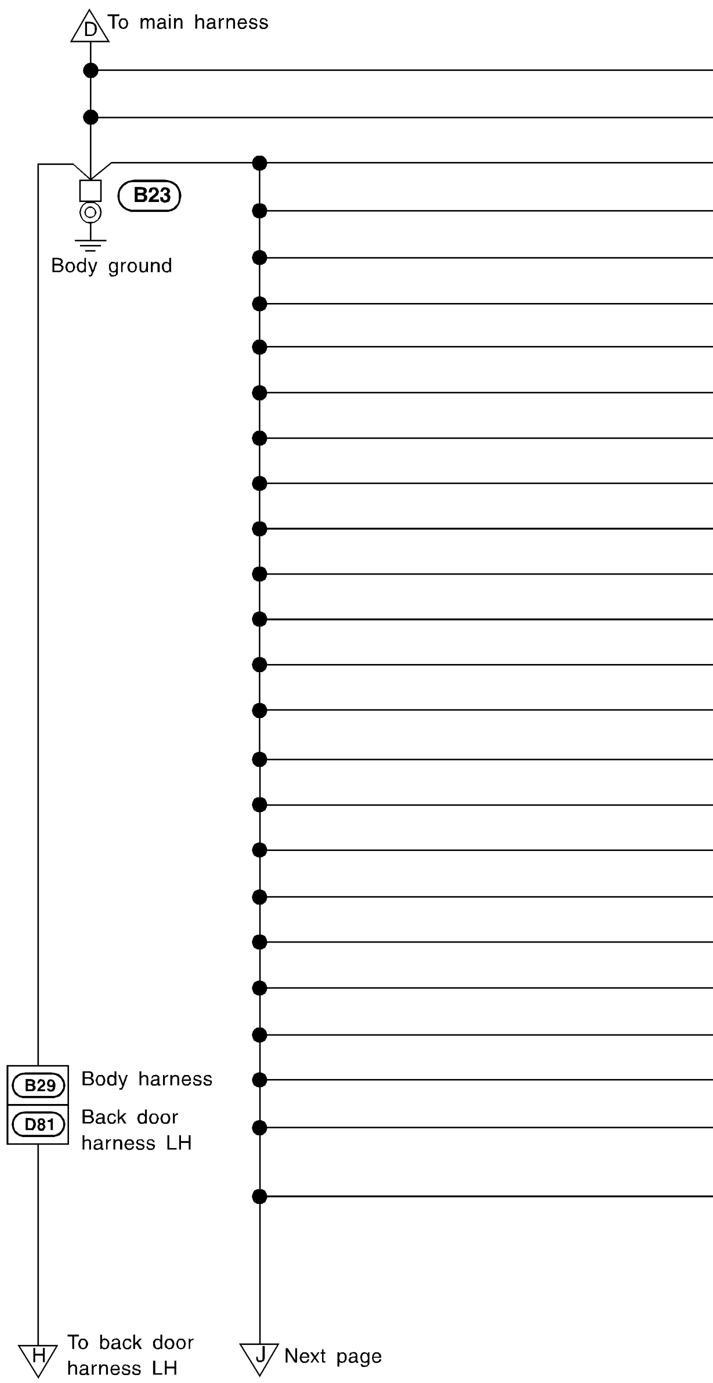
Body Harness/LHD Models

Wagon models



Hardtop models

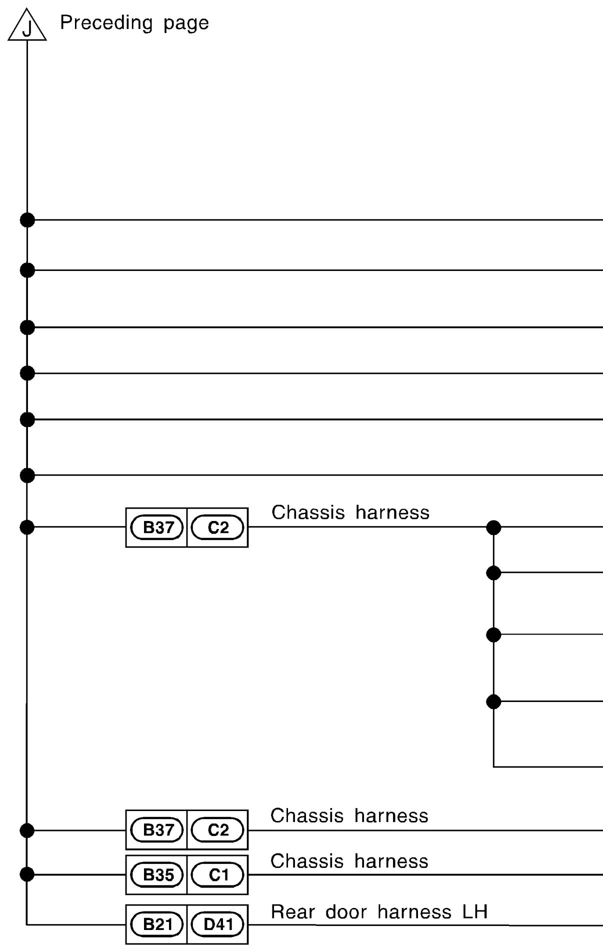




CONNECTOR NUMBER	CONNECT TO
B13	Rear cooler switch (Terminal No. 3)
B14	Rear fan switch
B41	Front power socket
B4	Power seat (Passenger side)
B5	Heated seat LH
B6	Wiper deicer switch (Illumination) (Terminal No. 4)
B6	Wiper deicer switch (Terminal No. 6)
B7	Heated seat switch LH
B8	Heated seat switch RH
B9	Ashtray illumination
B11	A/T device (Overdrive control switch) (Terminal No. 2) (ZD engine A/T models)
B11	A/T device (Illumination) (Terminal No. 4) (ZD engine A/T models)
B11	A/T device (Park position switch) (Terminal No. 8) (ZD engine A/T models)
B12	A/T mode switch (Hold (★) indicator lamp) (ZD engine A/T models with A/T mode switch)
B13	Rear cooler switch (Terminal No. 3) (With front auto A/C)
B13	Rear cooler switch (Illumination) (Terminal No. 6)
B15	Heated seat RH
B16	Seat belt buckle switch (Driver side)
B17	Power seat (Driver side)
B20	Front door switch (Driver side)
B25	A/T device (Illumination) (Terminal No. 1) (TB48 engine A/T models)
B25	A/T device (Park position switch) (Terminal No. 6) (TB48 engine A/T models)
B25	A/T device (Mode select switch) (Terminal No. 11) (TB48 engine A/T models)
B26	CD auto changer (Hardtop models)
B30	Rear combination lamp LH • Stop/Tail • Back-up • Rear fog • Turn signal

CEL293M

Body Harness/LHD Models (Cont'd)

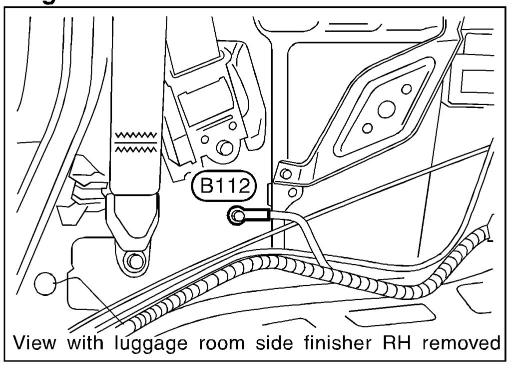


CONNECTOR NUMBER	CONNECT TO
B32	Rear cooler solenoid valve
B38	Rear cooler unit (With rear cooler except for TB48 engine models)
B40	Cool box
B42	Power socket relay
B43	Rear cooler cut relay (TB45E engine models with rear cooler)
B56	Rear cooler cut relay (TB48 engine models with rear cooler)
C7	Diff lock indicator switch
C9	Sub fuel tank gauge unit (Terminal No. 5)
C10	Rear bumper combination lamp LH • Stop/Tail • Turn signal
C11	Fuel tank gauge unit (Fuel pump) (Terminal No. 6) (Gasoline engine models)
C12	Rear bumper combination lamp RH • Stop/Tail • Turn signal
C8	Sub fuel tank gauge unit (Terminal No. 3)
C11	Fuel tank gauge unit (Terminal No. 2)
D46	Rear door lock actuator LH (Door unlock sensor) (With theft warning system)

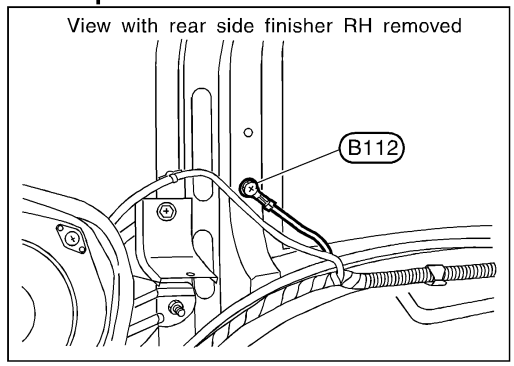
CEL294M

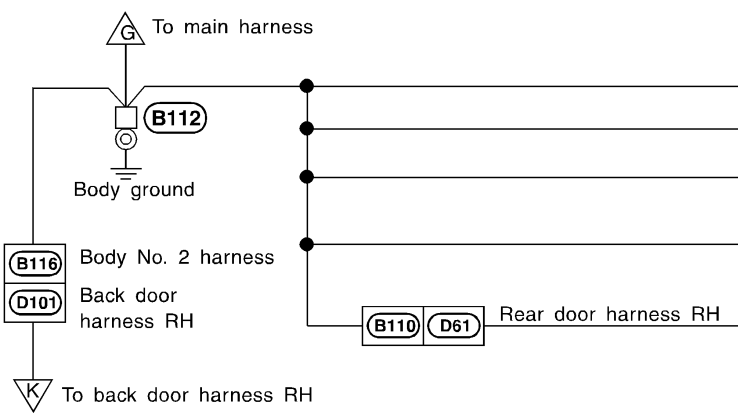
Body No. 2 Harness/LHD Models

Wagon models

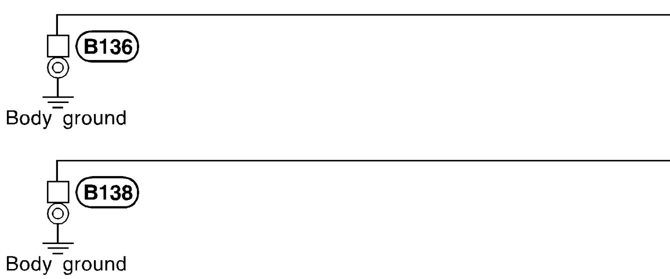


Hardtop models

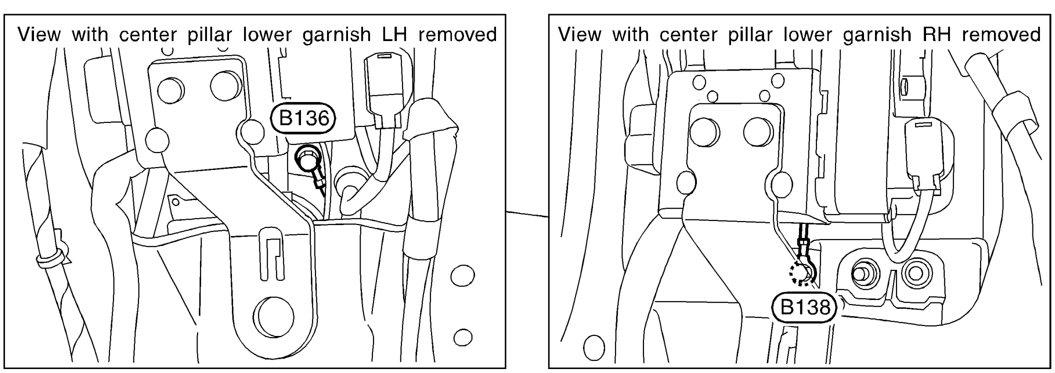




CON-NECTOR NUMBER	CONNECT TO
B107	Rear heater unit
B113	CD auto changer (Wagon models)
B114	Rear wiper amp.
B117	Rear combination lamp RH • Stop/Tail • Back-up • Turn signal
D66	Rear door lock actuator RH (Door unlock sensor) (With theft warning system)



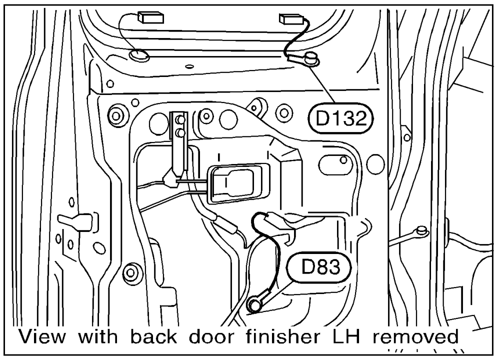
B135	Shield wire (Satellite sensor LH)
B137	Shield wire (Satellite sensor RH)



CEL295M

Back Door and Rear Window Defogger Harness/LHD Models

BACK DOOR HARNESS LH



H To body harness

CONNECTOR NUMBER	CONNECT TO
D82	License plate lamp
D86	Back door lock actuator (Door unlock sensor)
D88	Back door key cylinder switch (With theft warning system)

D83

Body ground

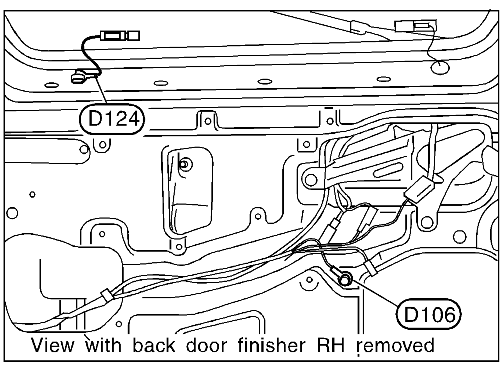
REAR WINDOW DEFOGGER HARNESS LH

CONNECTOR NUMBER	CONNECT TO
D131	Rear window defogger LH

D132

Body ground

BACK DOOR HARNESS RH



K To body No. 2 harness

CONNECTOR NUMBER	CONNECT TO
D104	High-mounted stop lamp
D105	Rear wiper motor
D107	Back door switch RH

D106

Body ground

REAR WINDOW DEFOGGER HARNESS RH

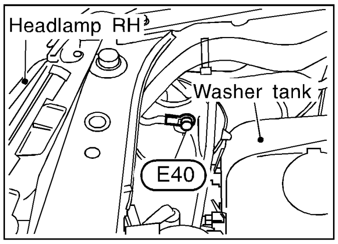
CONNECTOR NUMBER	CONNECT TO
D123	Rear window defogger RH

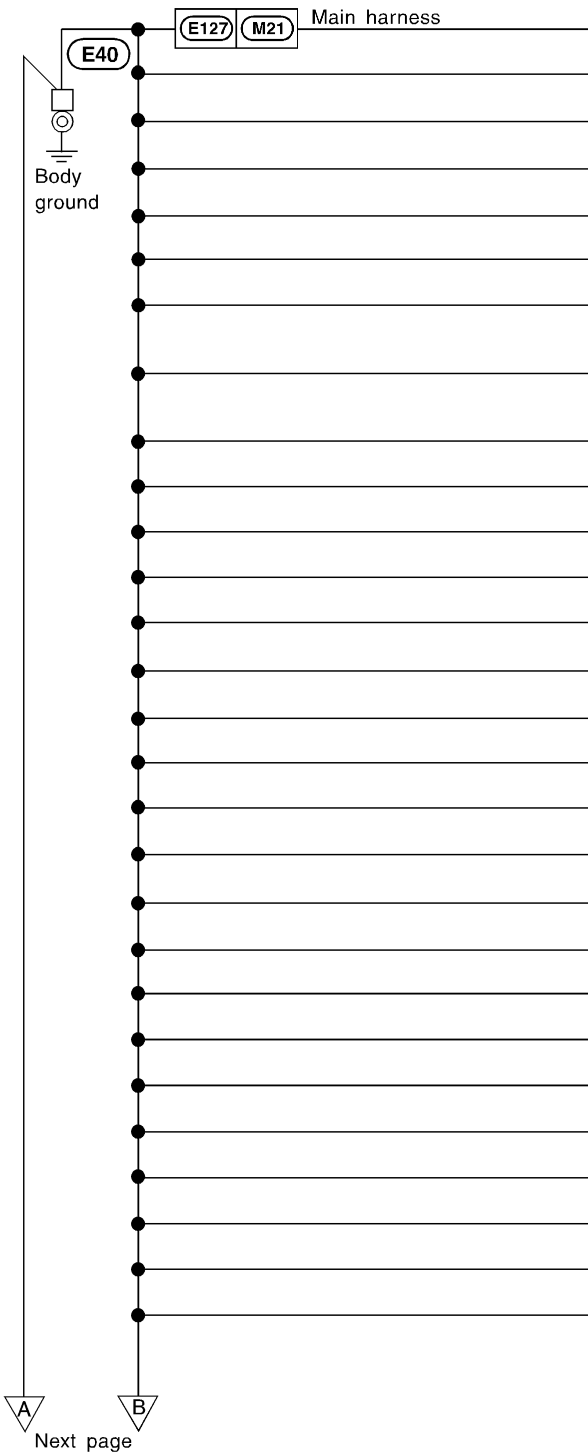
D124

Body ground

CEL296M

Engine Room Harness/RHD Models

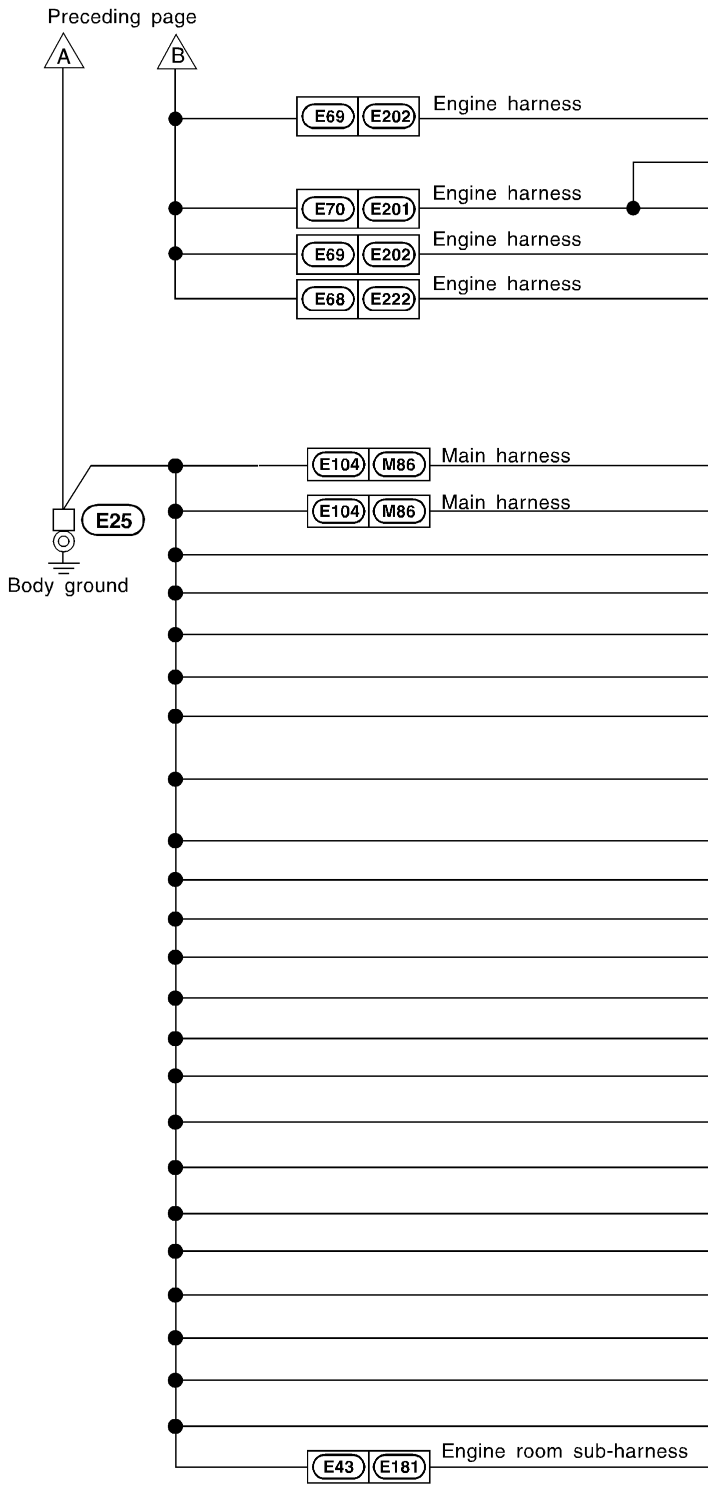




CON-NECTOR NUMBER	CONNECT TO
M103	NATS IMMU (TD engine models with NATS)
E5	Air conditioner relay
E6	Auto-choke relay (TB45S engine models)
E7	Bulb check relay (Except for TB45S engine models)
E38	Headlamp wiper motor RH
E41	Headlamp aiming motor RH
E45	Headlamp RH
E49	Front combination lamp RH • Parking • Turn signal • Cornering
E52	Park/Neutral position relay-1 (A/T models)
E55	Side turn signal lamp RH
E57	Wiper deicer
E58	Front wiper motor
E59	Glow relay-1 (TD engine models)
E75	Fuel filter switch (Diesel engine models)
E76	Brake fluid level switch
E79	Front fog lamp RH
E87	Glow relay-2 (TD engine models for Australia)
E92	A/C cut relay (TB45S and TD engine models with A/C)
E96	IACV-FICD solenoid valve (TD engine models with A/C)
E100	ISC-FI POT control solenoid valve (TB45S engine models with A/C)
E115	Combination switch (Turn signal lamp switch) (For Australia)
E118	Combination switch (Rear wiper switch)
E119	Combination switch (Front wiper switch) (Without intermittent wiper)
E120	Combination switch (Front wiper switch) (With intermittent wiper)
E151	Ambient air temperature switch (TB48 engine models with front manual A/C)
E153	Rear fog lamp relay
E160	Hood switch (With theft warning system)
E168	Starter cut relay (TB45S engine models with NATS)

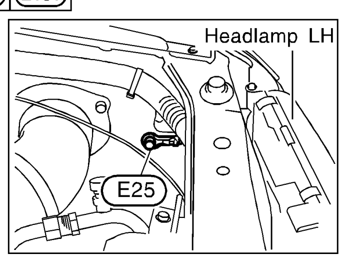
CEL297M

Engine Room Harness/RHD Models (Cont'd)



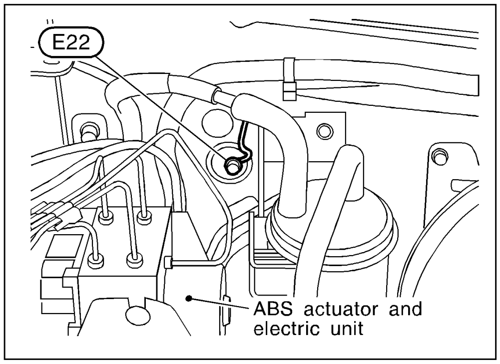
CON-NECTOR NUMBER	CONNECT TO
E211	Park/Neutral position switch (ECM control engine M/T models)
E212	4WD switch
E213	Transfer neutral switch
E219	Engine coolant temperature sensor (TD engine models)
E230	Csolu (TD engine models with NATS)

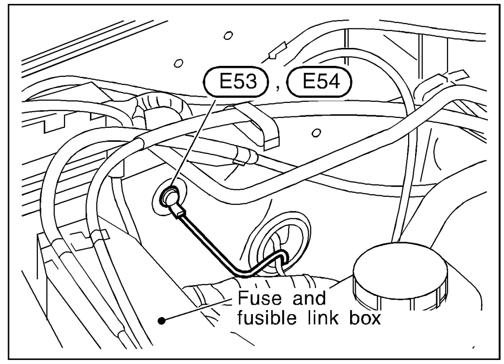
CON-NECTOR NUMBER	CONNECT TO
M33	Combination meter (Terminal No. 19) (Without ABS for Europe)
M141	Combination meter (Terminal No. 12) (Without ABS except for Europe)
E10	Diff lock solenoid (Terminal No. 3)
E10	Diff lock solenoid (Terminal No. 4)
E17	Cooling fan motor-2 (TB48 engine models)
E19	Power antenna
E20	Side turn signal lamp LH
E24	Front combination lamp LH • Parking • Turn signal • Cornering
E26	Headlamp aiming motor LH
E30	Headlamp LH
E31	Distributor (TB45S engine models)
E33	Headlamp wiper motor LH
E36	Cooling fan motor-1 (Terminal No. 2) (Except for TB48 engine models)
E36	Cooling fan motor-1 (Terminal No. 4)
E80	Front fog lamp LH
E94	Engine coolant temperature switch-1 (TB45S and TD engine models with A/C)
E121	Condenser (TB45S engine models)
E147	Park/Neutral position relay-3 (Terminal No. 1) (TB48 engine A/T models)
E147	Park/Neutral position relay-3 (Terminal No. 6) (TB48 engine A/T models)
E150	A/T pv ign relay (TB48 engine A/T models)
E160	Hood switch (OPT) (For Europe)
E164	Cooling fan relay-2 (TB48 engine models)
E166	Cooling fan relay-3 (TB48 engine models)
E183	Winch relay

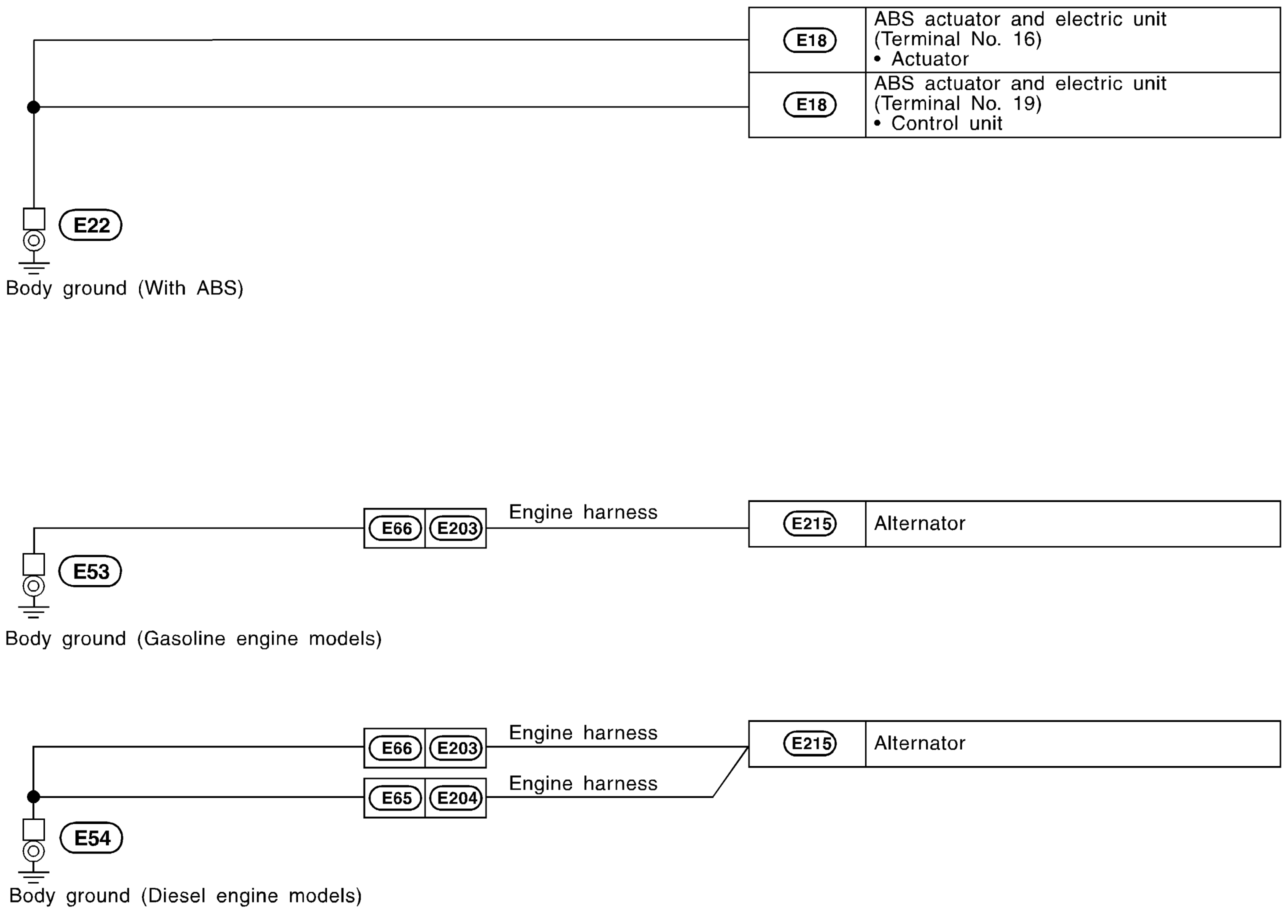


CEL298M

Engine Room Harness/RHD Models (Cont'd)



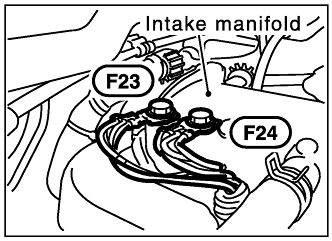


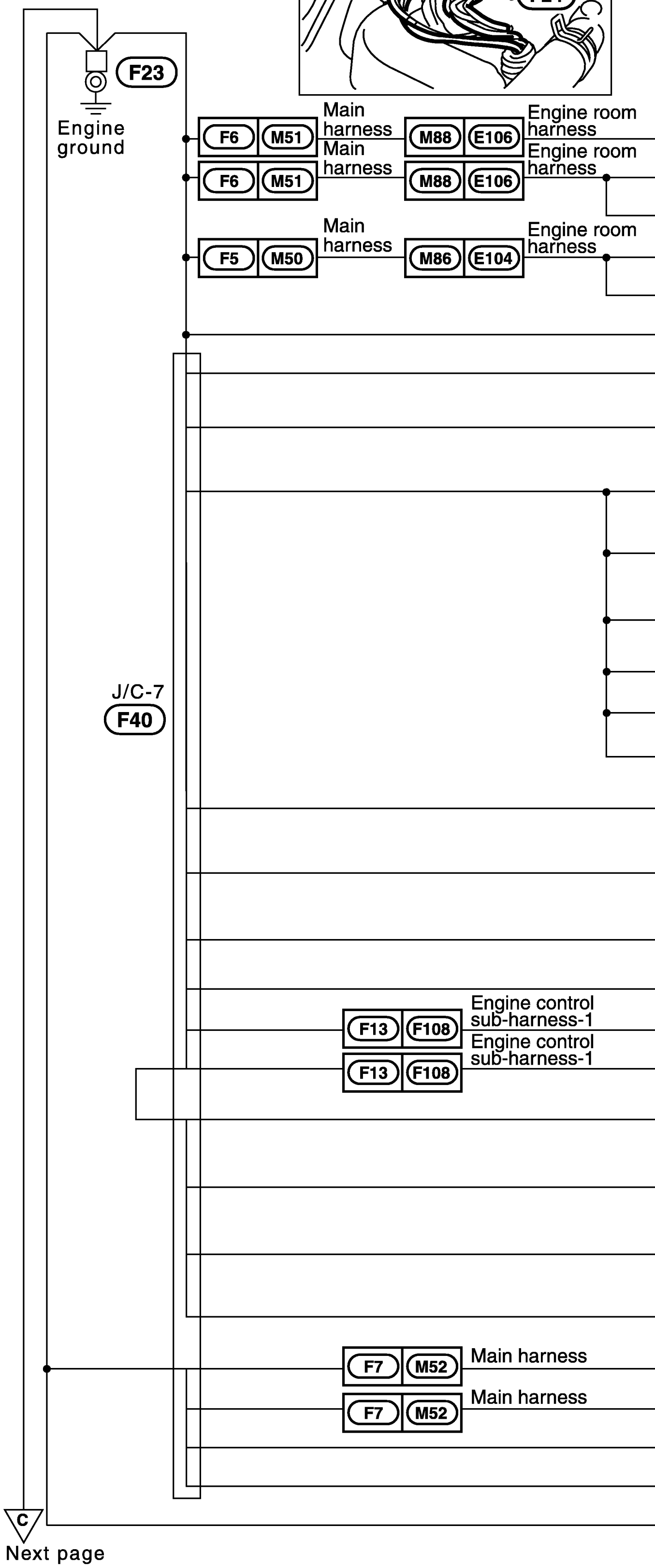


CEL299M

Engine Room Harness/RHD Models (Cont'd)

TB48DE ENGINE

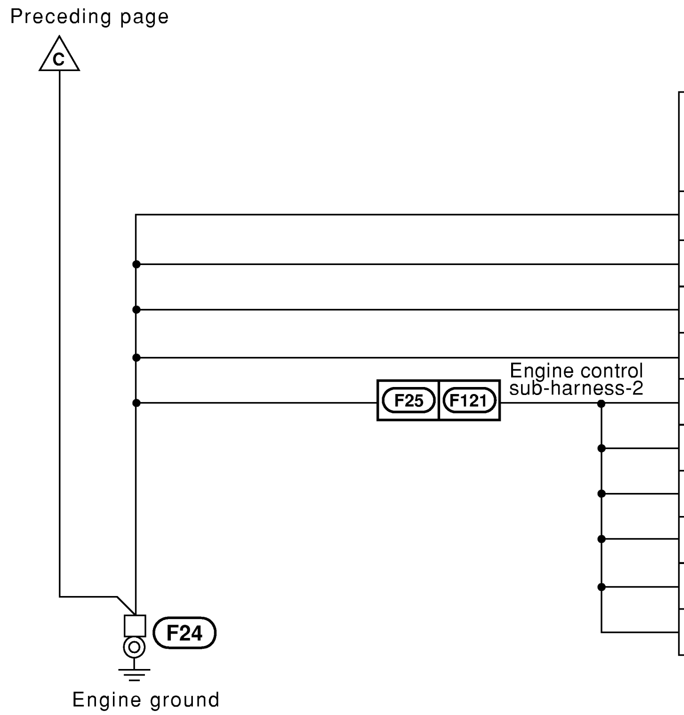




CON-NECTOR NUMBER	CONNECT TO
E123	Shield wire (TCM (Transmission control module))
E123	TCM (Transmission control module) (Terminal No. 5)
E123	TCM (Transmission control module) (Terminal No. 14)
E123	TCM (Transmission control module) (Terminal No. 24)
F124	TCM (Transmission control module) (Terminal No. 46)
F16	Camshaft position sensor
F2	Shield wire (Throttle position sensor) (M/T models)
F4	Shield wire (Electric throttle control actuator (Accelerator pedal position sensor)) (For circuit from terminal No. 10) (A/T models)
F4	Shield wire (Electric throttle control actuator (Accelerator pedal position sensor)) (For circuit from terminal No. 7) (A/T models)
F4	Shield wire (Electric throttle control actuator (Accelerator pedal position sensor)) (For circuit from terminal No. 9) (A/T models)
F4	Shield wire (Electric throttle control actuator (Accelerator pedal position sensor)) (For circuit from terminal No. 11) (A/T models)
F8	Shield wire (Heated oxygen sensor 1 (B1)) (With three way catalyst)
F9	Shield wire (Heated oxygen sensor 1 (B2)) (With three way catalyst)
F17	Shield wire (Mass air flow sensor)
F10	Shield wire (Electric throttle control actuator (Throttle position sensor)) (For circuit from terminal No. 2) (A/T models)
F10	Shield wire (Electric throttle control actuator (Throttle control motor)) (For circuit from terminal No. 3, 6) (A/T models)
F10	Shield wire (Electric throttle control actuator (Throttle position sensor)) (For circuit from terminal No. 5) (A/T models)
F16	Shield wire (Camshaft position sensor)
F109	Shield wire (Knock sensor-1)
F110	Shield wire (Knock sensor-2)
F4	Shield wire (Electric throttle control actuator (Accelerator pedal position sensor)) (For circuit from terminal No. 8) (A/T models)
F4	Shield wire (Electric throttle control actuator (Accelerator pedal position sensor)) (For circuit from terminal No. 12) (A/T models)
F10	Shield wire (Electric throttle control actuator (Throttle position sensor)) (For circuit from terminal No. 1) (A/T models)
F10	Shield wire (Electric throttle control actuator (Throttle position sensor)) (For circuit from terminal No. 4) (A/T models)
M10	Data link connector (Terminal No. 5)
M29	NATS IMMU
F39	ECM (Terminal No. 165)
F39	ECM (Terminal No. 168)
F21	Power steering oil pressure switch

CEL301M

TB48DE ENGINE

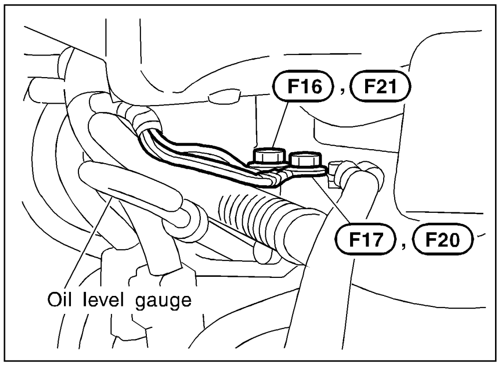


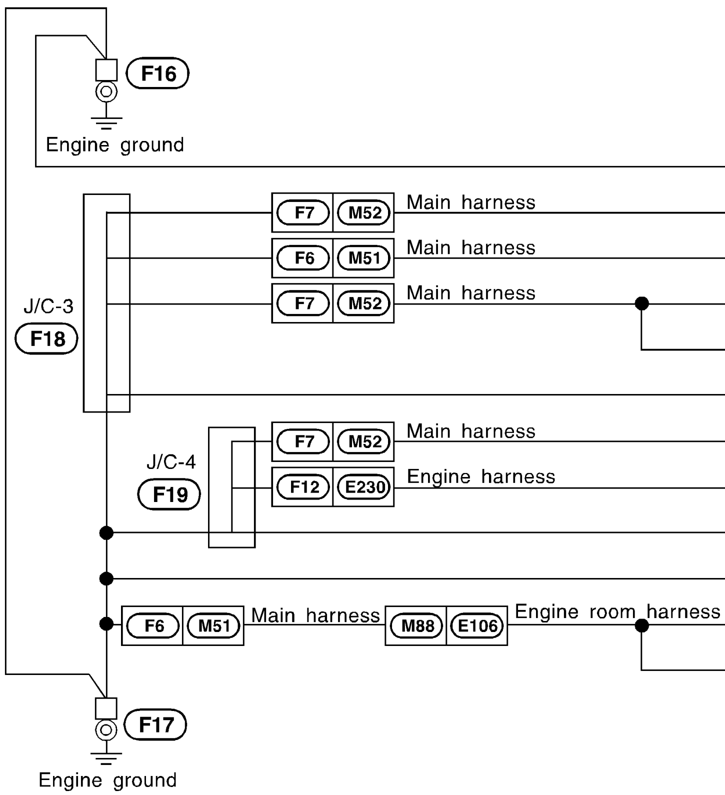
CONNECTOR NUMBER	CONNECT TO
F29	Condenser
F38	ECM (Terminal No. 153) (A/T models)
F38	ECM (Terminal No. 156)
F38	ECM (Terminal No. 159)
F122	Ignition coil No. 1 (With power transistor)
F123	Ignition coil No. 2 (With power transistor)
F124	Ignition coil No. 3 (With power transistor)
F125	Ignition coil No. 4 (With power transistor)
F126	Ignition coil No. 5 (With power transistor)
F127	Ignition coil No. 6 (With power transistor)

CEL302M

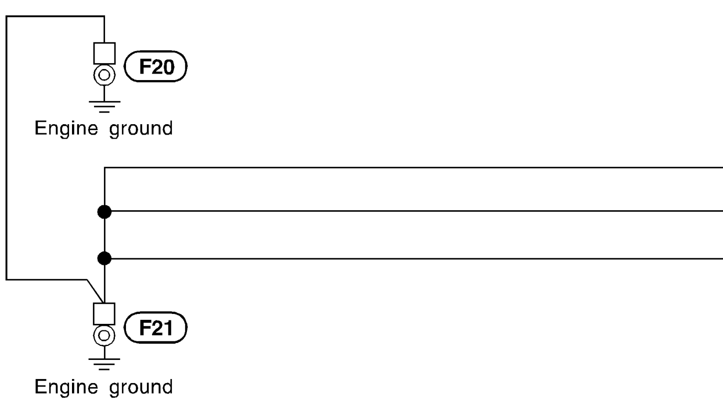
Engine Room Harness/RHD Models (Cont'd)

ZD ENGINE





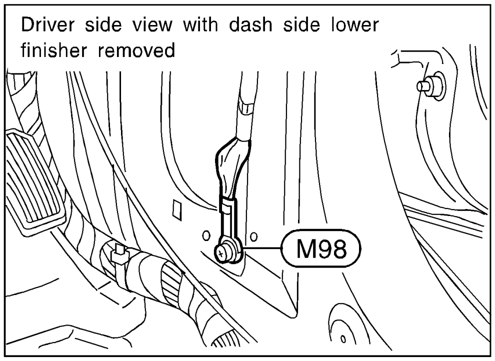
CON-NECTOR NUMBER	CONNECT TO
F4	Electronic control fuel injection pump
M10	Data link connector (Terminal No. 5)
M27	Accelerator switch (F/C)
M29	NATS IMMU
M121	Dongle unit
F8	ECM (Terminal No. 39)
M25	Shield wire (Accelerator position sensor)
E231	Shield wire (Mass air flow sensor)
F13	Shield wire (Crankshaft position sensor (TDC))
F8	ECM (Terminal No. 43)
E102	TCM (Transmission control module) (Terminal No. 25)
E102	TCM (Transmission control module) (Terminal No. 48)

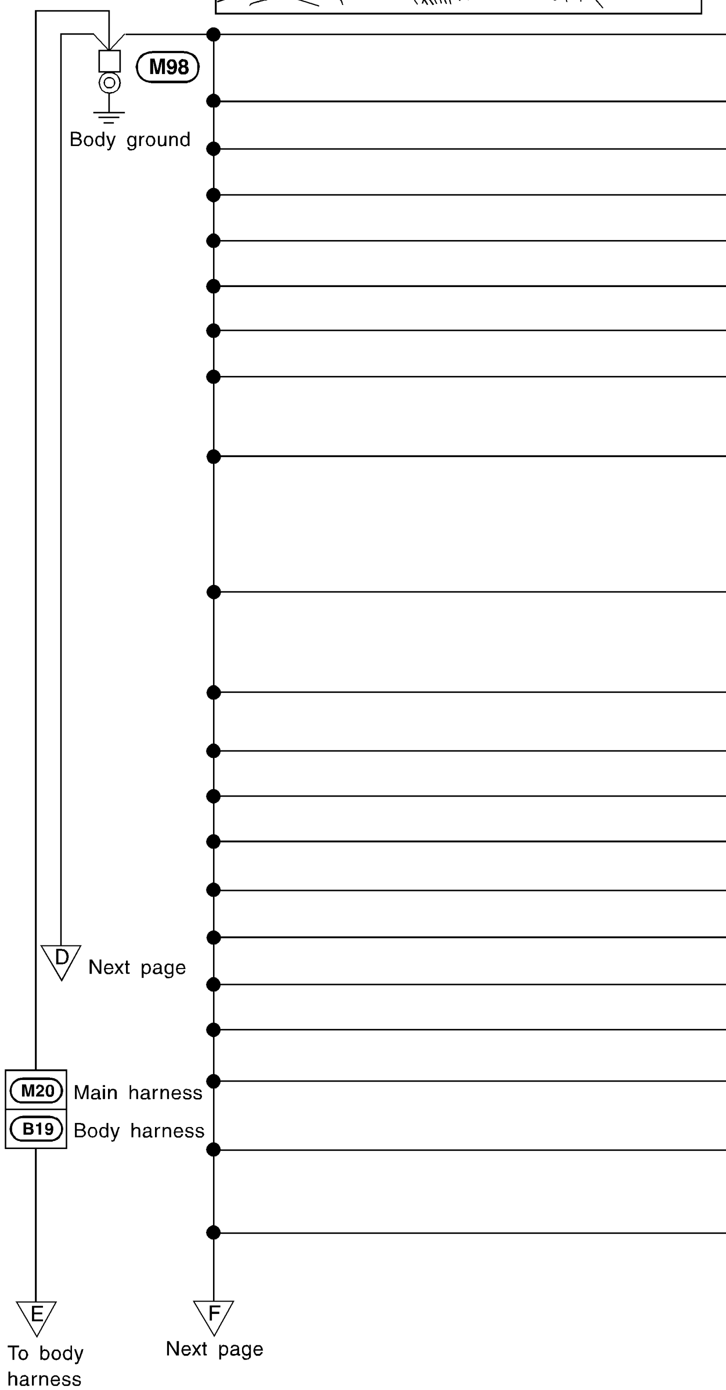


CON-NECTOR NUMBER	CONNECT TO
F8	ECM (Terminal No. 106)
F8	ECM (Terminal No. 112)
F8	ECM (Terminal No. 118)

CEL300M

Main Harness/RHD Models



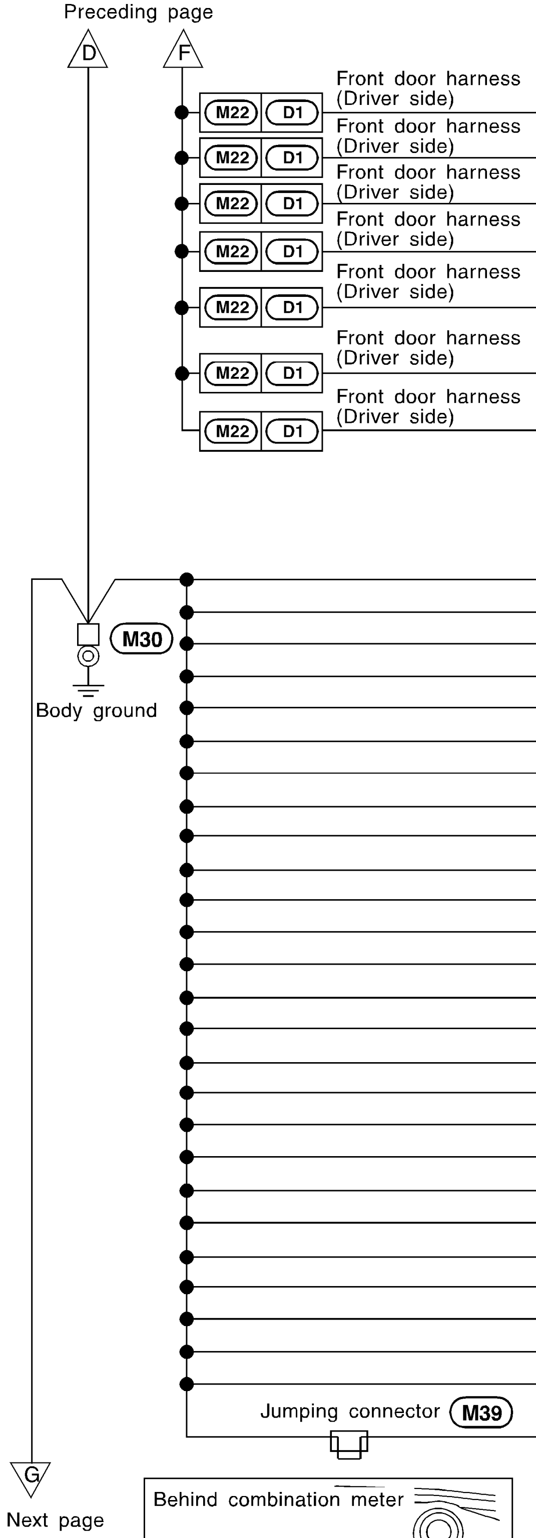


CON-NECTOR NUMBER	CONNECT TO
M3	Fuse block (J/B) • Accessory relay • Ignition relay • Blower motor relay
M10	Data link connector (Terminal No. 4) (With CONSULT-II)
M11	Headlamp aiming switch
M13	Heat up switch (Illumination) (Terminal No. 2)
M13	Heat up switch (Terminal No. 4)
M14	Door mirror remote control switch
M16	Glow control unit (TD engine models except for Australia)
M17	ASCD control unit
M32	Combination meter (Terminal No. 5) (For Europe) • Unified meter control unit • Water temp. gauge • Fuel gauge • Air bag warning lamp
M33	Combination meter (Terminal No. 13) (For Europe) • Turn signal indicator • ABS warning lamp • Clock • Rear fog lamp indicator
M33	Combination meter (Terminal No. 20) (For Europe) • High beam indicator
M106	Glow control unit (TD engine models for Australia)
M108	Front fog lamp switch (Terminal No. 2)
M108	Front fog lamp switch (Illumination) (Terminal No. 6)
M115	Check connector (TB45S engine models)
M116	Fuel pump control module (FPCM) (TB45S engine models)
M117	Super lock control unit
M130	Fuel pump relay (TB45S engine models)
M142	Combination meter (Terminal No. 33) (Except for Europe) • Unified meter control unit
M143	Combination meter (Terminal No. 56) (Except for Europe) • Unified meter control unit
M143	Combination meter (Terminal No. 68) (Except for Europe) • Unified meter control unit • High beam indicator • Turn signal indicator

CEL303M

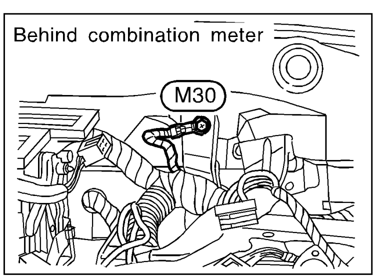
GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Main Harness/RHD Models (Cont'd)



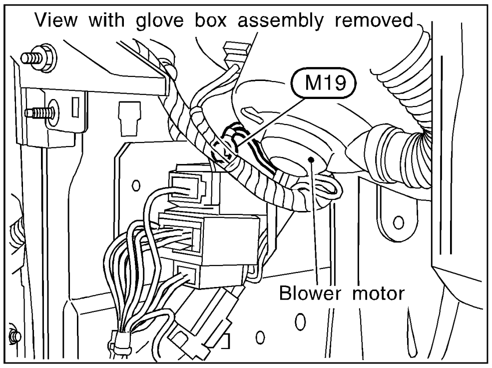
CONNECTOR NUMBER	CONNECT TO
D3	Door mirror defogger (Driver side)
D5	Power window main switch (Hardtop models)
D6	Front door key cylinder switch (Driver side) (With super lock or theft warning system)
D7	Front door lock actuator assembly RH (Door unlock sensor) (With super lock)
D8	Front door lock switch (Driver side) (Without multi-remote control system except for with super lock)
D9	Front door lock actuator (Driver side) (Door unlock sensor) (With multi-remote control system except for with super lock)
D10	Power window main switch (Wagon models)

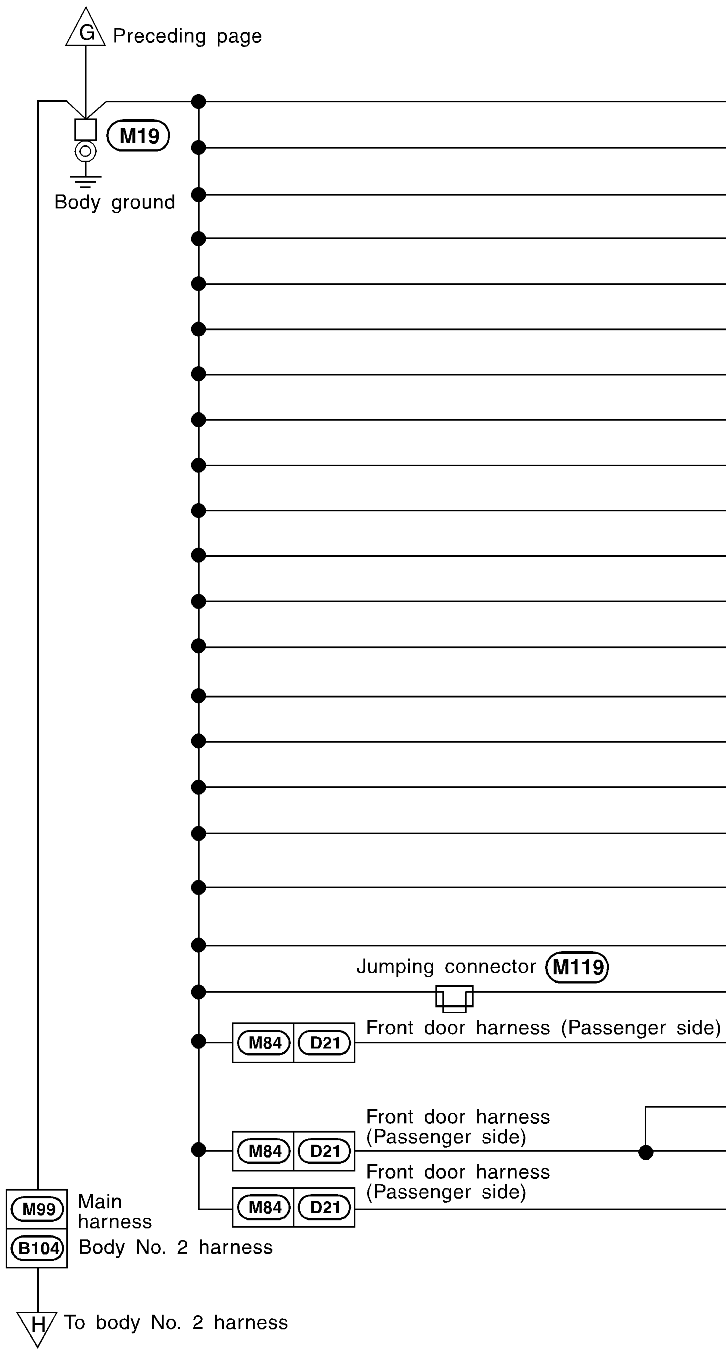
CONNECTOR NUMBER	CONNECT TO
M29	NATS IMMU (TB45S engine models with NATS)
M37	Combination flasher unit
M38	Mode door motor (With front auto A/C)
M39	Illumination control switch
M40	Air mix door motor (With front auto A/C)
M41	Smart entrance control unit (For South Africa)
M42	Cigarette lighter
M44	Stabilizer control unit
M46	Rear window defogger switch (Terminal No. 2)
M46	Rear window defogger switch (Indicator) (Terminal No. 4)
M46	Rear window defogger switch (Illumination) (Terminal No. 6)
M47	Headlamp wiper switch (Terminal No. 5)
M47	Headlamp wiper switch (Illumination) (Terminal No. 7)
M48	Sub fuel tank switch (Terminal No. 2)
M48	Sub fuel tank switch (Illumination) (Terminal No. 6)
M49	Hazard switch (Illumination)
M69	Sub fuel tank control unit
M100	Stabilizer switch (Illumination)
M126	Smart entrance control unit (With theft warning system)
M136	Door lock and unlock switch (Terminal No. 3)
M136	Door lock and unlock switch (Illumination) (Terminal No. 5)
M137	Sub IMMU (Terminal No. 4) (TB45S engine models with NATS)
M137	Sub IMMU (Terminal No. 8) (TB45S engine models with NATS)
M137	Sub IMMU (Terminal No. 35) (TB45S engine models with NATS)
M137	Sub IMMU (Terminal No. 48) (TB45S engine models with NATS)
M140	Door lock relay
M142	Combination meter (Terminal No. 34) (Without illumination control switch) • Unified meter control unit • Meter illumination (Without fine vision meter)



CEL304M

Main Harness/RHD Models (Cont'd)



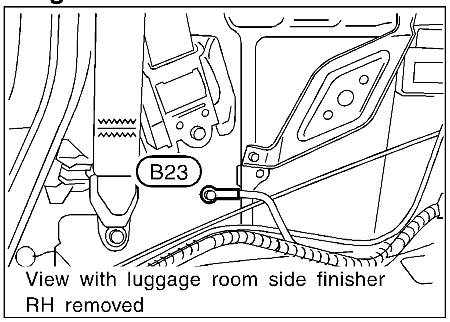


CON-NECTOR NUMBER	CONNECT TO
M53	Rear heater front switch (Terminal No. 2)
M53	Rear heater front switch (Illumination) (Terminal No. 9)
M54	Air bag diagnosis sensor unit
M60	Power antenna switch (Illumination)
M61	Rear cooler front switch (Indicator) (Terminal No. 7)
M61	Rear cooler front switch (Illumination) (Terminal No. 9)
M67	Diff lock switch (Illumination)
M68	Diff lock control unit
M71	Fan switch (With front manual A/C)
M73	Fan switch illumination (With front manual A/C)
M74	Recirculation switch (With front manual A/C)
M75	A/C auto amp. (Terminal No. 3) (With front auto A/C)
M75	A/C auto amp. (Illumination) (Terminal No. 11) (With front auto A/C)
M78	Fan control amp. (With front auto A/C)
M91	Power window relay
M111	Heated seat relay
M125	Theft warning horn relay
M129	Multi-remote control unit (Except for South Africa, with super lock or theft warning system)
M133	Multi-remote control unit (For South Africa and with super lock)
M141	Combination meter (Terminal No. 8) (Without air bag except for Europe)
D23	Door mirror defogger (Passenger side)
D26	Front door key cylinder switch (Passenger side) (With super lock or theft warning system)
D28	Front door lock actuator assembly LH (Door unlock sensor) (With super lock)
D27	Front door lock actuator (Passenger side) (Door unlock sensor) (With theft warning system)

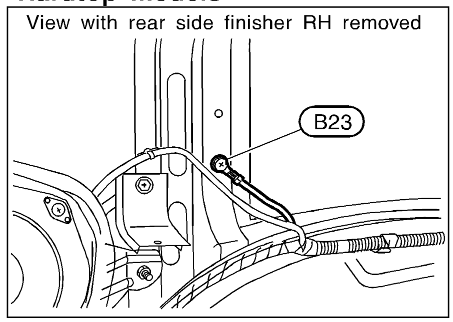
CEL305M

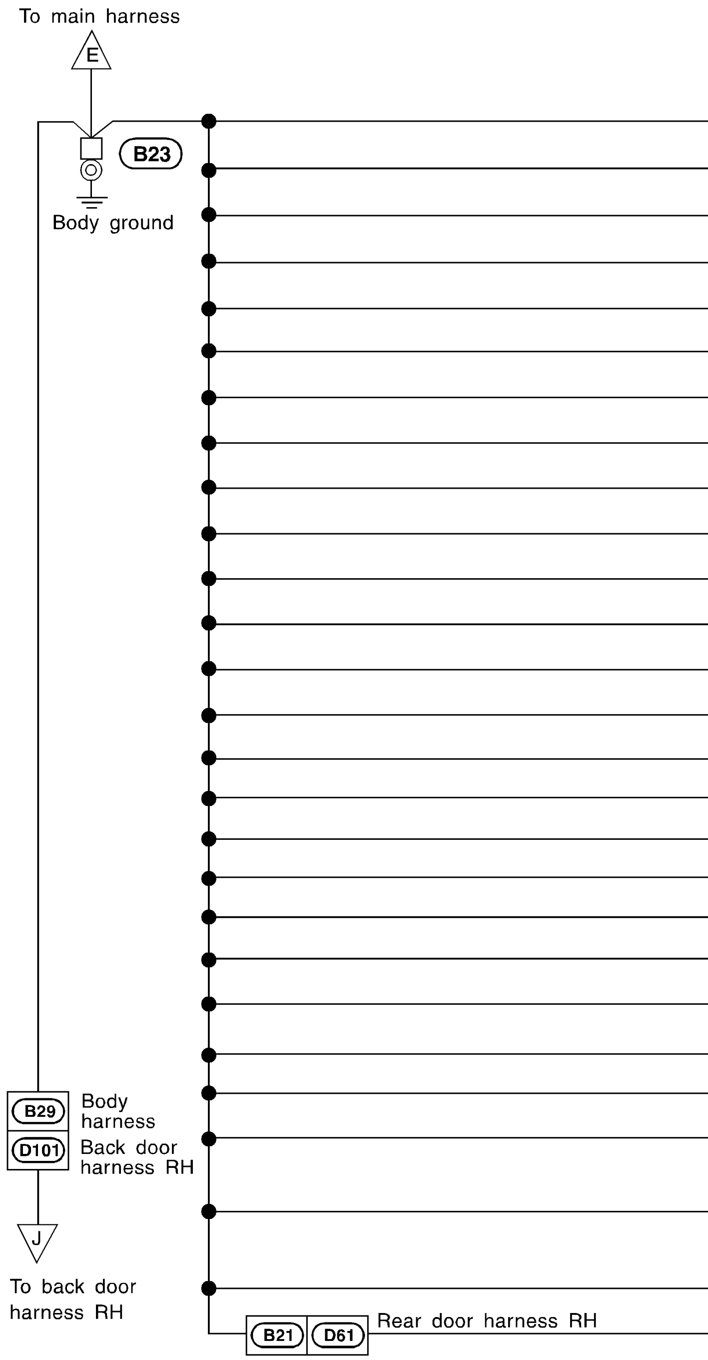
Body Harness/RHD Models

Wagon models



Hardtop models

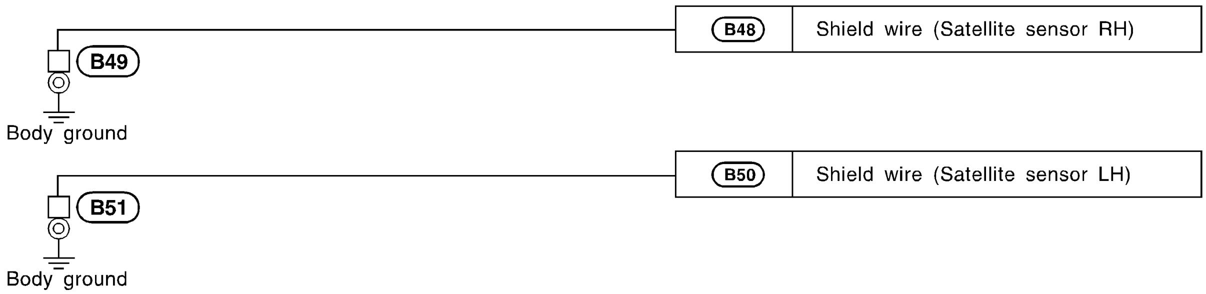




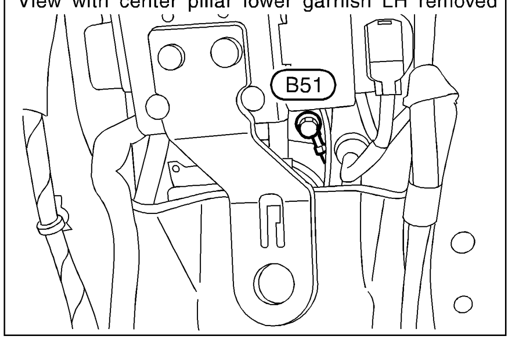
CON-NECTOR NUMBER	CONNECT TO
B4	Power seat (Passenger side)
B5	Heated seat LH
B6	Wiper deicer switch (Illumination) (Terminal No. 4)
B6	Wiper deicer switch (Terminal No. 6)
B7	Heated seat switch LH
B8	Heated seat switch RH
B9	Ashtray illumination
B11	A/T device (Overdrive control switch) (Terminal No. 2) (ZD engine A/T models)
B11	A/T device (Illumination) (Terminal No. 4) (ZD engine A/T models)
B11	A/T device (Park position switch) (Terminal No. 8) (ZD engine A/T models)
B12	A/T mode switch (Hold (★) indicator lamp) (ZD engine A/T models with A/T mode switch)
B13	Rear cooler switch (Terminal No. 3)
B13	Rear cooler switch (Illumination) (Terminal No. 6)
B14	Rear fan switch
B15	Heated seat RH
B16	Seat belt buckle switch (Driver side)
B17	Power seat (Driver side)
B18	Rear heater unit
B20	Front door switch (Driver side)
B25	A/T device (Illumination) (Terminal No. 1) (TB48 engine A/T models)
B25	A/T device (Park position switch) (Terminal No. 6) (TB48 engine A/T models)
B25	A/T device (Mode select switch) (Terminal No. 11) (TB48 engine A/T models)
B26	CD auto changer (Wagon models)
B27	Rear wiper amp.
B30	Rear combination lamp RH • Stop/Tail • Back-up • Rear fog • Turn signal
B57	Snow mode switch (Snow indicator lamp) (TB48 engine A/T models with snow mode switch)
D66	Rear door lock actuator RH (Door unlock sensor) (With theft warning system)

CEL306M

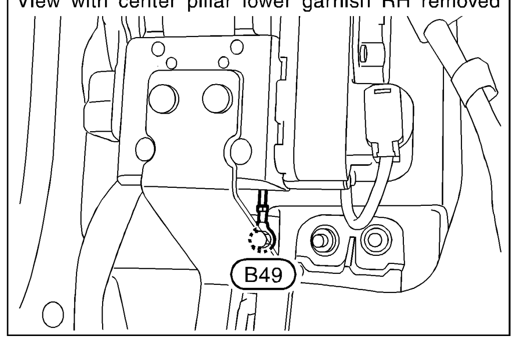
Body Harness/RHD Models (Cont'd)



View with center pillar lower garnish LH removed



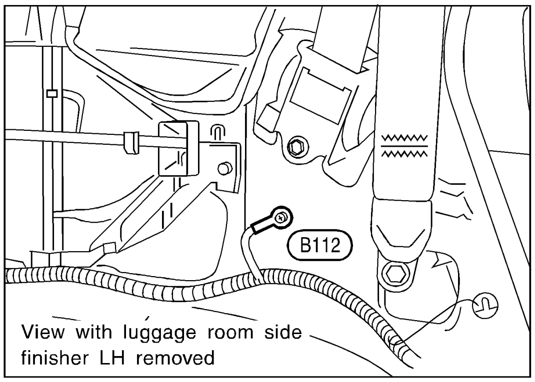
View with center pillar lower garnish RH removed



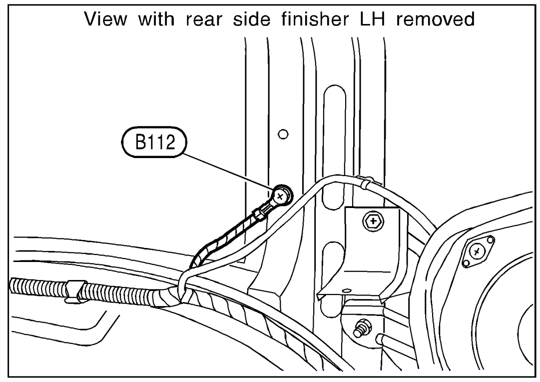
CEL307M

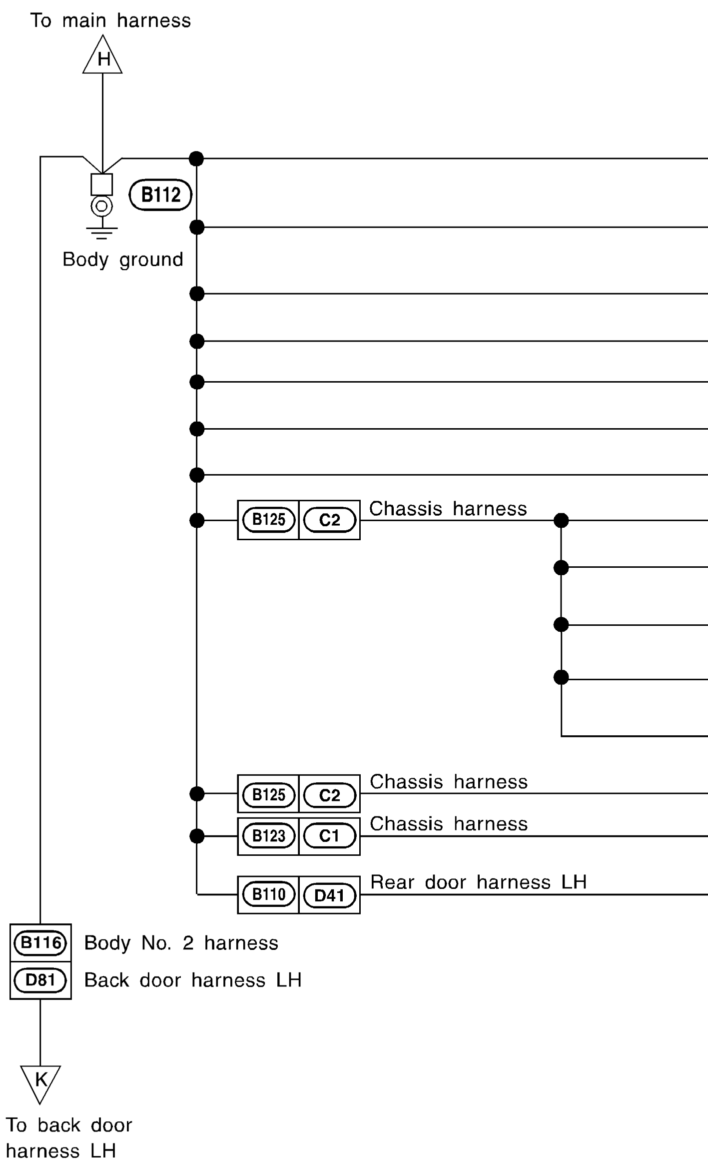
Body No. 2 Harness/RHD Models

Wagon models



Hardtop models



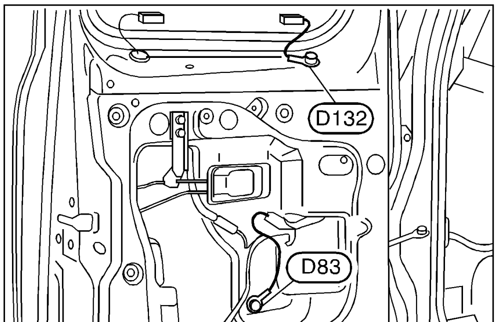


CONNECTOR NUMBER	CONNECT TO
B113	CD auto changer (Hardtop models)
B117	Rear combination lamp LH • Stop/Tail • Back-up • Turn signal
B119	Rear cooler cut relay (TB48 engine models with rear cooler)
B122	Rear cooler solenoid valve
B126	Power socket relay
B127	Rear cooler unit (With rear cooler except for TB48 engine models)
B129	Front power socket
C7	Diff lock indicator switch
C9	Sub fuel tank gauge unit (Terminal No. 5)
C10	Rear bumper combination lamp LH • Stop/Tail • Turn signal
C11	Fuel tank gauge unit (Fuel pump) (Terminal No. 6) (Gasoline engine models)
C12	Rear bumper combination lamp RH • Stop/Tail • Turn signal
C8	Sub fuel tank gauge unit (Terminal No. 3)
C11	Fuel tank gauge unit (Terminal No. 2)
D46	Rear door lock actuator LH (Door unlock sensor) (With theft warning system)

CEL308M

Back Door and Rear Window Defogger Harness/RHD Models

BACK DOOR HARNESS LH



View with back door finisher LH removed

To body No. 2 harness (K)

CONNECTOR NUMBER	CONNECT TO
D82	License plate lamp
D86	Back door lock actuator (Door unlock sensor)
D88	Back door key cylinder switch (With theft warning system)

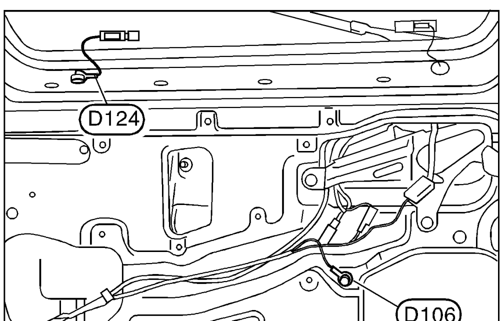
D83 — Body ground

REAR WINDOW DEFOGGER HARNESS LH

CONNECTOR NUMBER	CONNECT TO
D131	Rear window defogger LH

D132 — Body ground

BACK DOOR HARNESS RH



View with back door finisher RH removed

To body harness (J)

CONNECTOR NUMBER	CONNECT TO
D104	High-mounted stop lamp
D105	Rear wiper motor
D107	Back door switch RH

D106 — Body ground

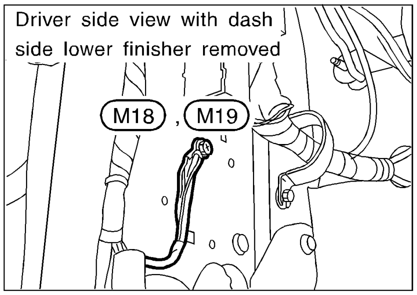
REAR WINDOW DEFOGGER HARNESS RH

CONNECTOR NUMBER	CONNECT TO
D123	Rear window defogger RH

D124 — Body ground

CEL309M

Main Harness



Driver side view with dash side lower finisher removed

M18 Body ground

M152 / C2 Chassis harness

M151 / C1 Chassis harness

CON-NECTOR NUMBER	CONNECT TO
C8	Sub fuel tank gauge unit (Terminal No. 3) (Gasoline engine models)
C18	Sub fuel tank gauge unit (Diesel engine models)
C8	Sub fuel tank gauge unit (Terminal No. 5) (Gasoline engine models)
C9	Sub fuel tank gauge unit (Diesel engine models)
C11	Fuel tank gauge unit (Fuel pump) (Terminal No. 6) (Gasoline engine models with sub fuel tank)
C13	Fuel tank gauge unit (Fuel pump) (Terminal No. 6) (Gasoline engine models without sub fuel tank)
C14	Rear combination lamp LH • Stop/Tail • Back-up • Turn signal
C15	Rear combination lamp RH • Stop/Tail • Back-up • Turn signal
C17	License plate lamp

M19 Body ground

M151 / C1 Chassis harness

CON-NECTOR NUMBER	CONNECT TO
C11	Fuel tank gauge unit (Terminal No. 2) (With sub fuel tank)
C13	Fuel tank gauge unit (Terminal No. 2) (Gasoline engine models without sub fuel tank)
C19	Fuel tank gauge unit (Diesel engine modles without sub fuel tank)
M3	Fuse block (J/B) (Terminal No. 3A) • Accessory relay • Ignition relay • Blower motor relay
M14	Door mirror remote control switch
M16	Glow control unit (Diesel engine models)
M32	Combination meter (Terminal No. 5) • Unified meter control unit • Water temp. gauge • Fuel gauge • Sub fuel gauge

A Next page

CEL227M

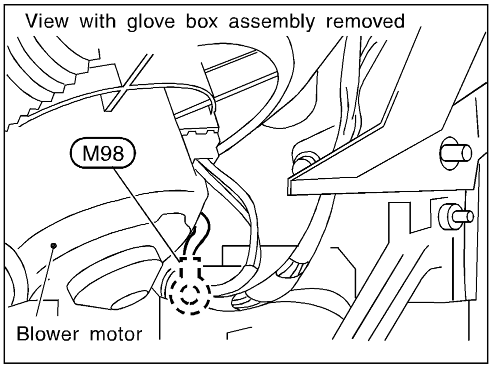
Main Harness (Cont'd)

A Preceding page

Via	Connector	Ground circuit
	M33	Combination meter (Terminal No. 13) • Turn signal indicator • Clock • 120 km/h chime
	M33	Combination meter (Terminal No. 20) • High beam indicator
	M33	Combination meter (Terminal No. 24) • Meter illumination • Odo/Trip meter illumination • Clock illumination
	M37	Combination flasher unit
	M41	Smart entrance control unit
	M42	Cigarette lighter
	M48	Sub fuel tank switch (Terminal No. 2)
	M48	Sub fuel tank switch (Terminal No. 6)
	M49	Hazard switch
	M69	Sub fuel tank control unit (Terminal No. 4)
	M69	Sub fuel tank control unit (Terminal No. 11)
	M73	Fan switch illumination
	M74	Recirculation switch
	M91	Power window relay
	M108	Front fog lamp switch (Terminal No. 2)
	M108	Front fog lamp switch (Terminal No. 6)
	M115	Check connector (Gasoline engine models)
	M116	Fuel pump control module (FPCM) (Gasoline engine models)
	M133	Ashtray illumination
	M134	Seat belt buckle switch (For the Middle East)
	M135	Cool box
M22 D1 Front door harness (driver side)	D5	Power window main switch
M22 D1 Front door harness (driver side)	D8	Front door lock switch (driver side)
	M71	Fan switch

M98 Body ground

View with glove box assembly removed



CEL228M

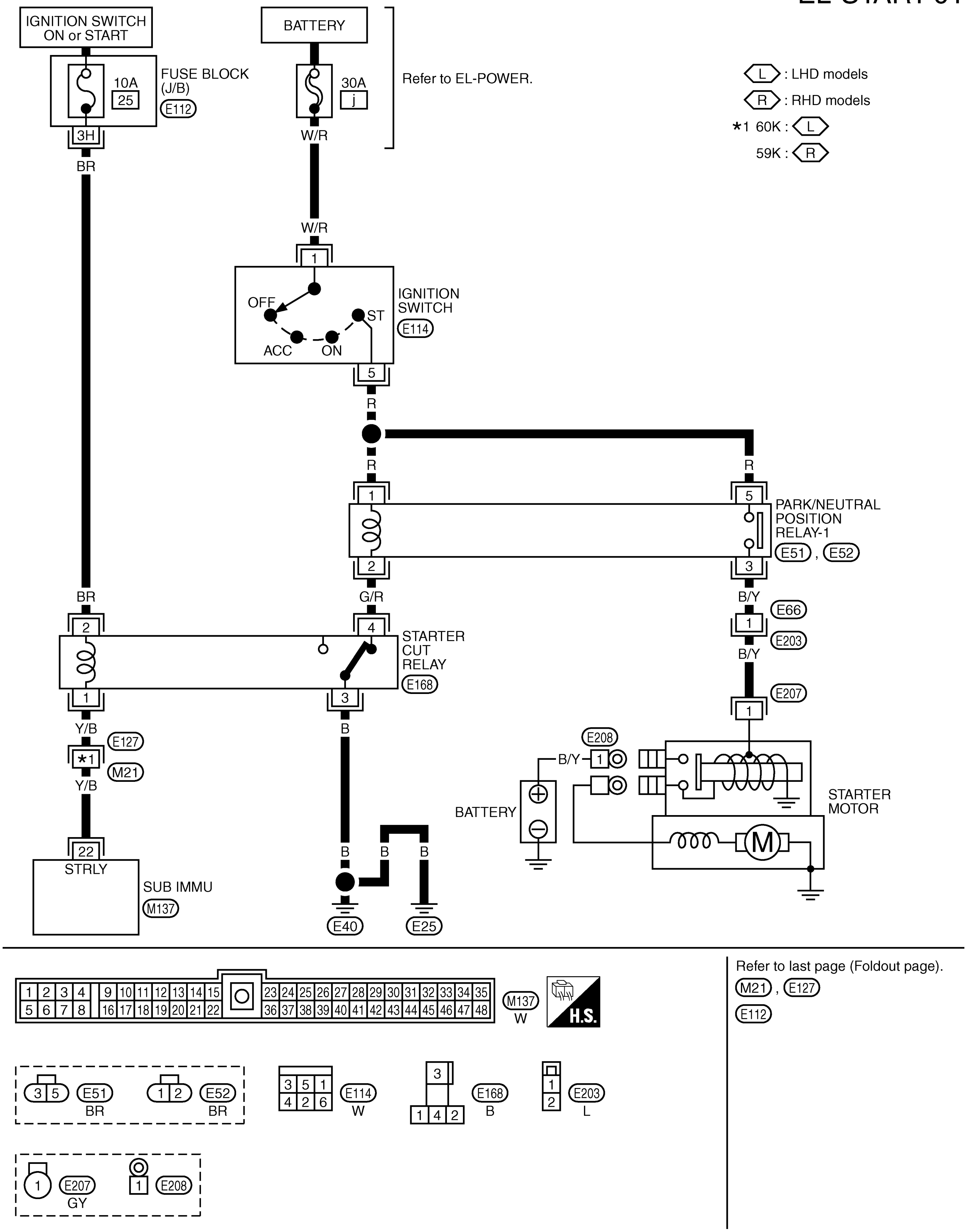
GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Service Data and Specifications (SDS)

Applied model		TB48DE
		Standard
Type		110D26L
Capacity	V-AH	12-75

Wiring Diagram — START —/TB45S Engine Models with NATS

EL-START-01

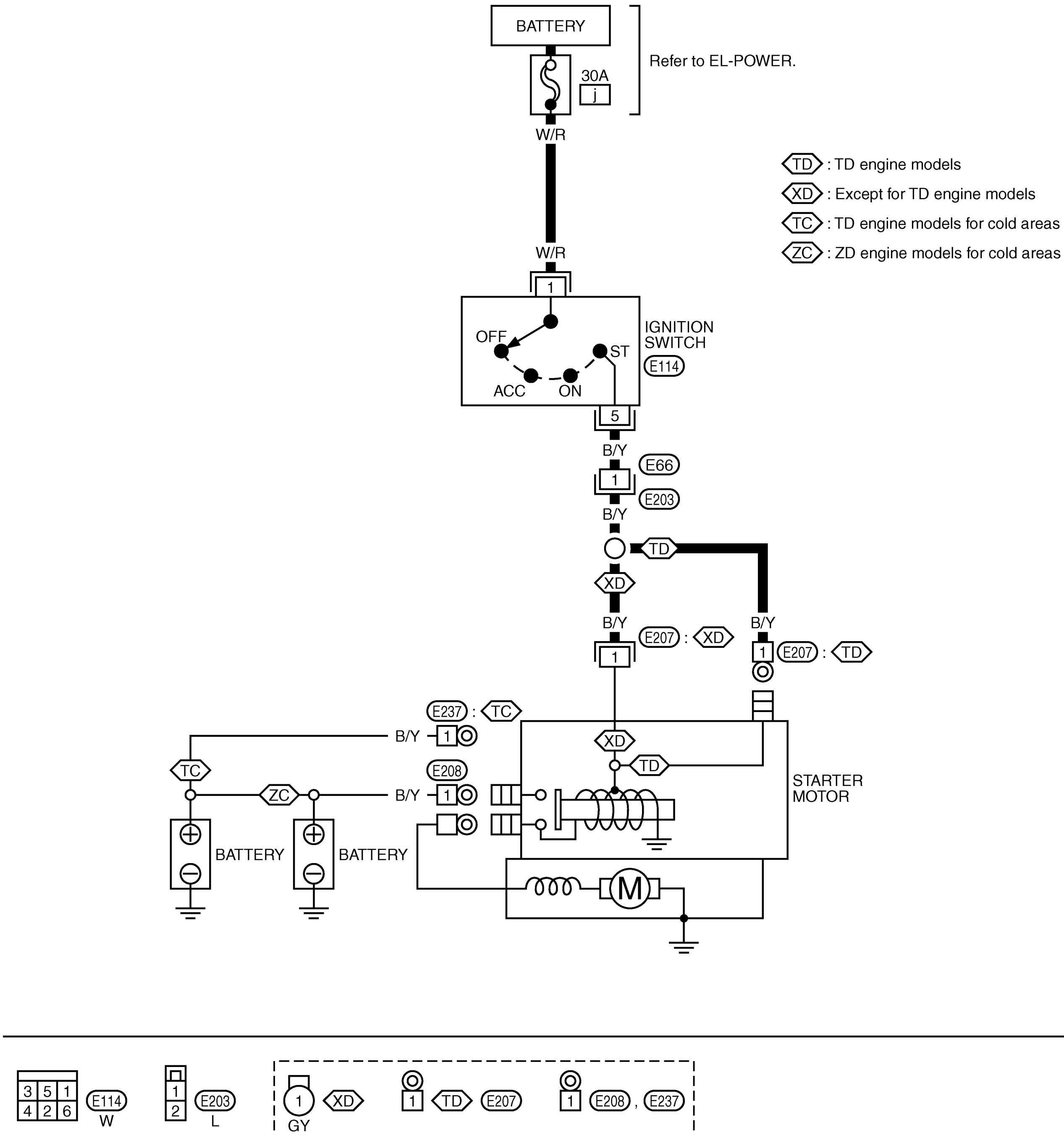


TEL509M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Wiring Diagram — START —/M/T Models Except for TB45S Engine Models with NATS

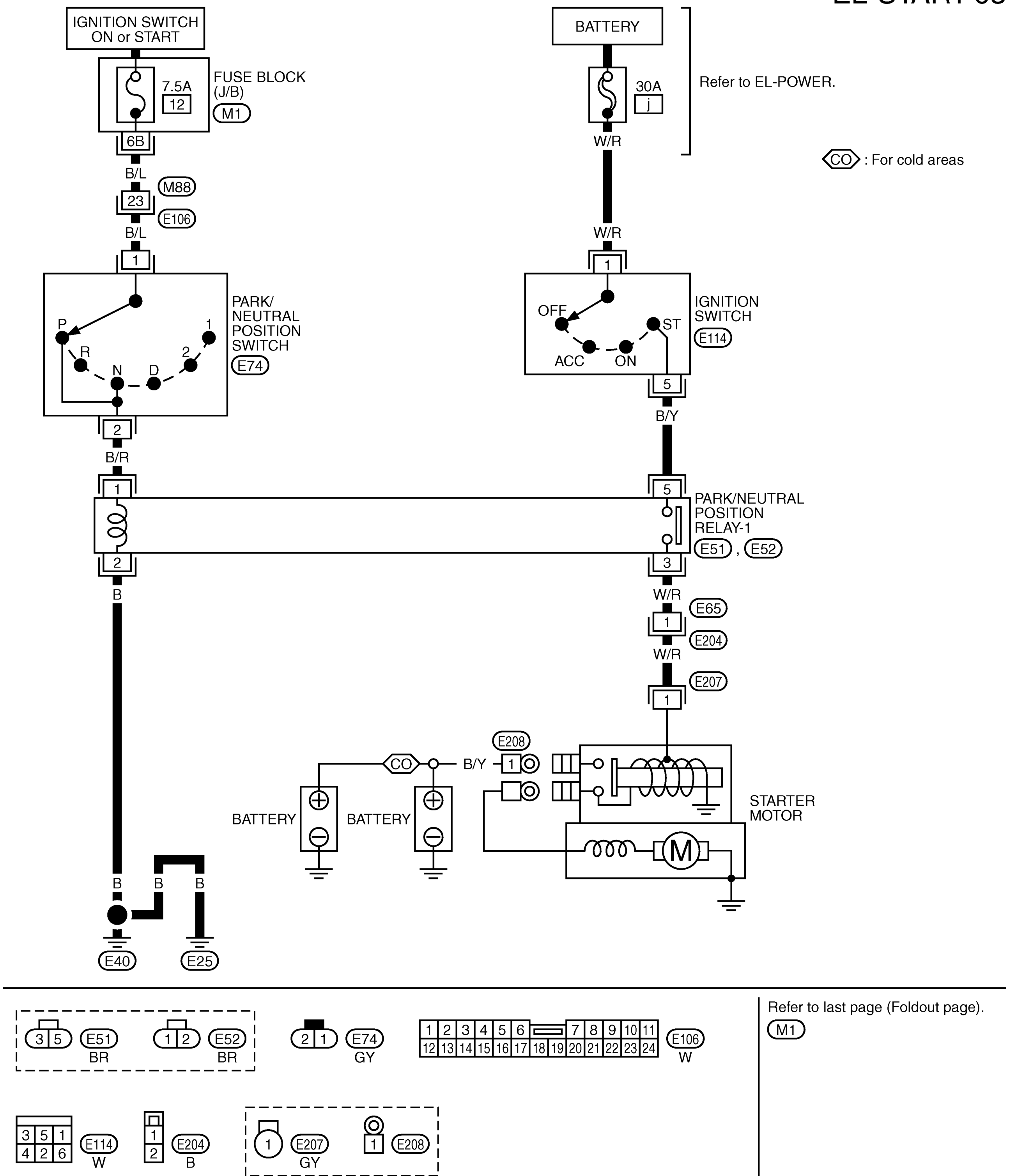
EL-START-02



TEL510M

Wiring Diagram — START —/A/T Models with ZD Engine

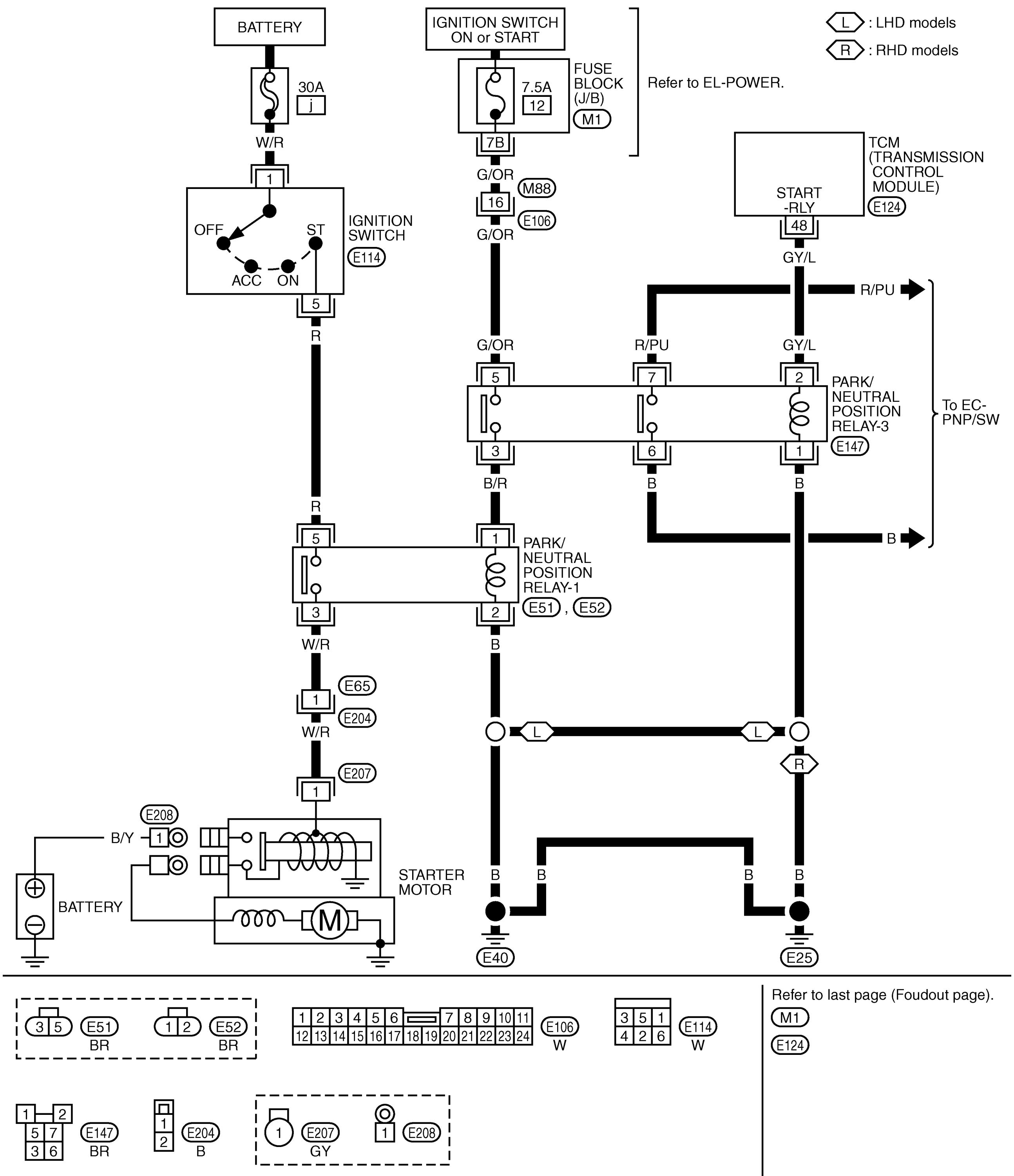
EL-START-03



TEL511M

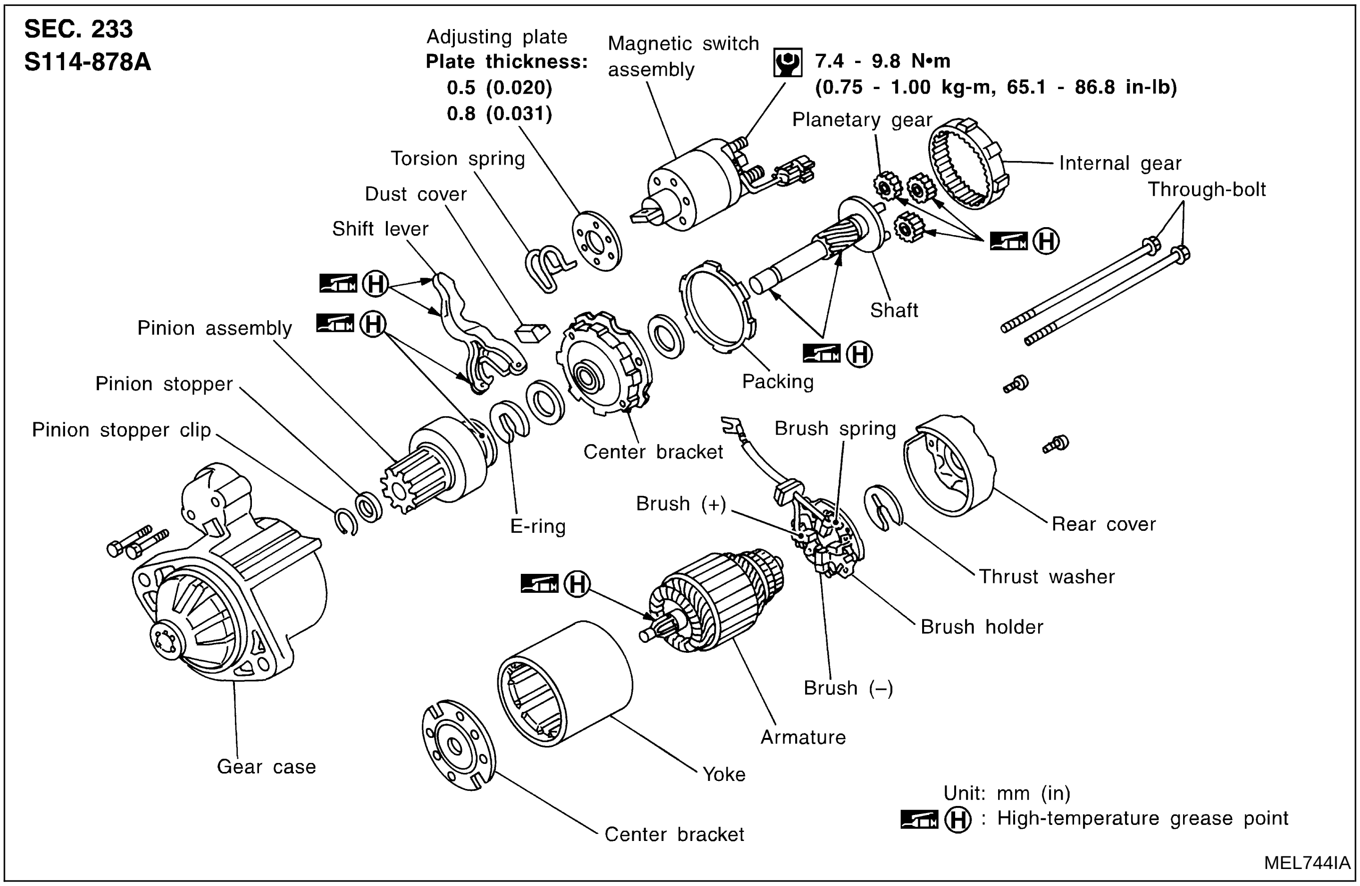
Wiring Diagram — START —/A/T Models with TB48 Engine

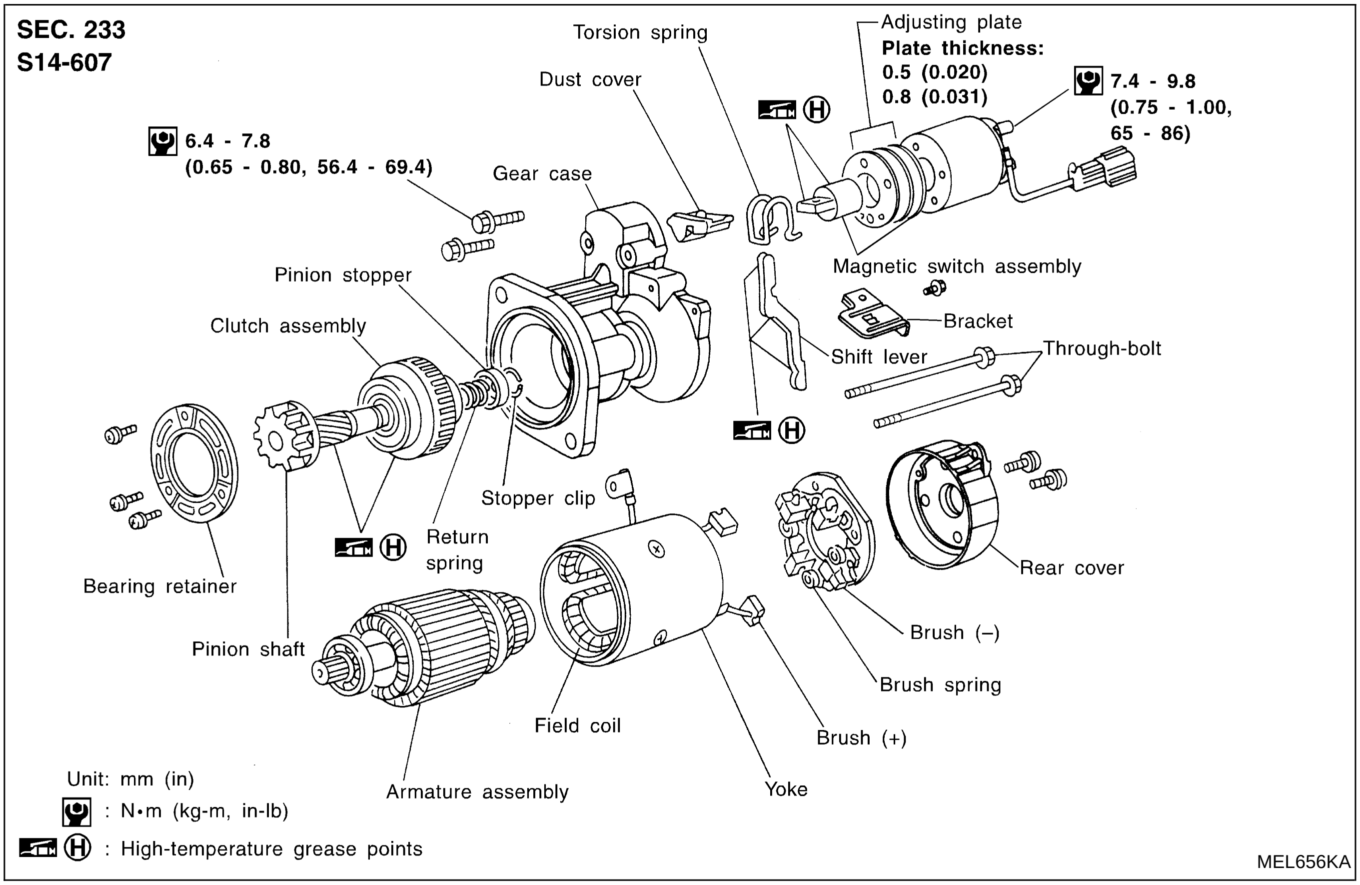
EL-START-04



TEL512M

Construction



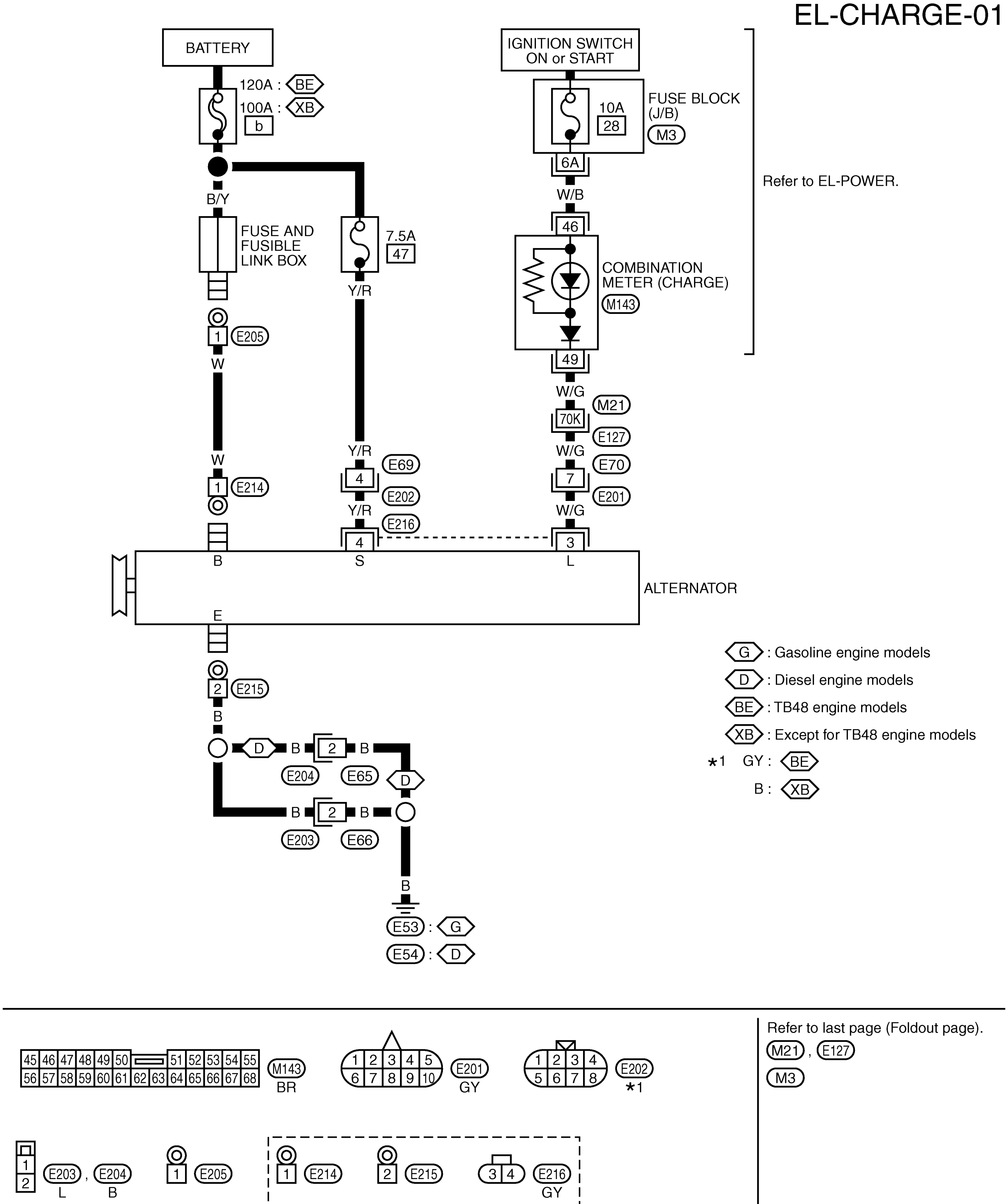


Service Data and Specifications (SDS)

STARTER

Type	S114-878A	S13-551A	S14-607
	HITACHI make		
	Reduction gear type		
Applied model	TB45, TB48	ZD30 Standard	ZD30 Option
System voltage V	12		
No-load			
Terminal voltage V	11	11	11
Current A	Less than 90	Less than 160	
Revolution rpm	2,300	3,300	3,400
Minimum diameter of commutator mm (in)	28 (1.102)	35.5 (1.398)	
Minimum length of brush mm (in)	10.5 (0.413)	11 (0.43)	10.5 (0.413)
Brush spring tension N (kg, lb)	16.2 (1.65, 3.64)	28.4 - 34.3 (2.9 - 3.5, 6.4 - 7.7)	24.5 - 34.3 (2.5 - 3.5, 5.5 - 7.7)
Clearance between bearing metal and armature shaft mm (in)	Less than 0.2 (0.008)	—	—
Clearance "ℓ" between pinion front edge and pinion stopper mm (in)	0.3 - 2.5 (0.012 - 0.098)	—	—
Movement "ℓ" in height of pinion assembly mm (in)	—	0.3 - 2.0 (0.012 - 0.079)	

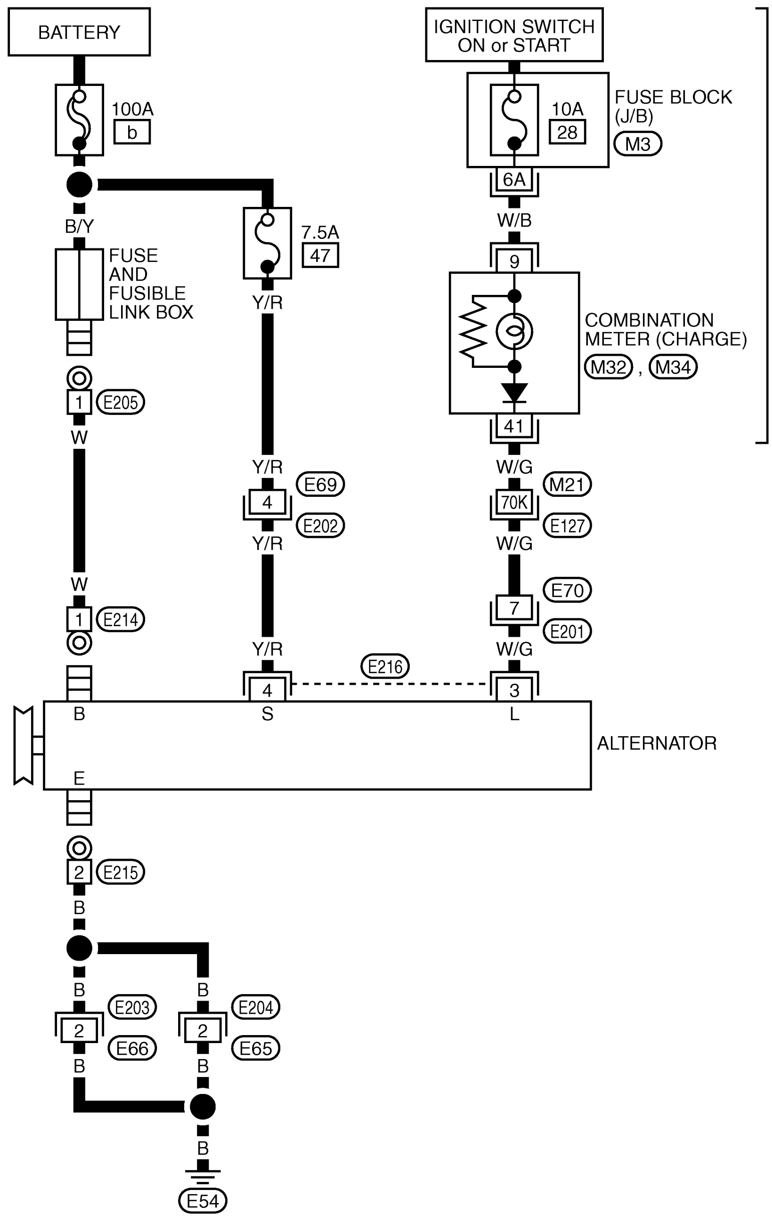
Wiring Diagram — CHARGE —/Except for Europe

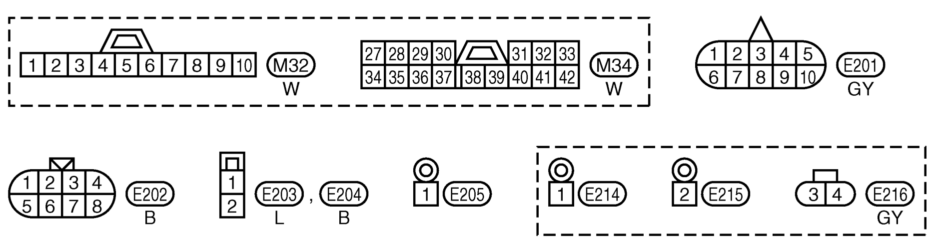


TEL385M

Wiring Diagram — CHARGE —/For Europe

EL-CHARGE-02





Refer to last page (Foldout page).

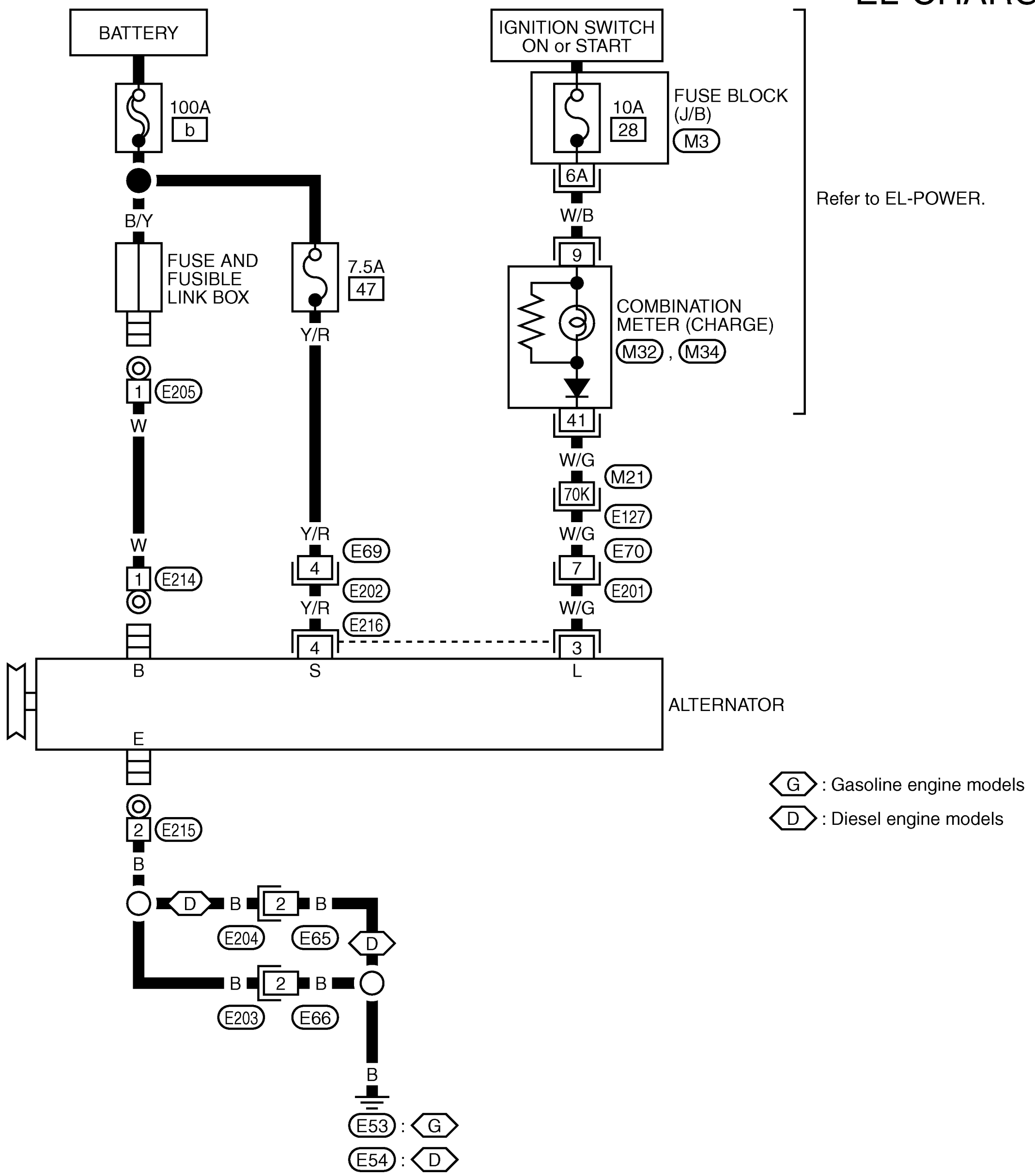
M21 , E127

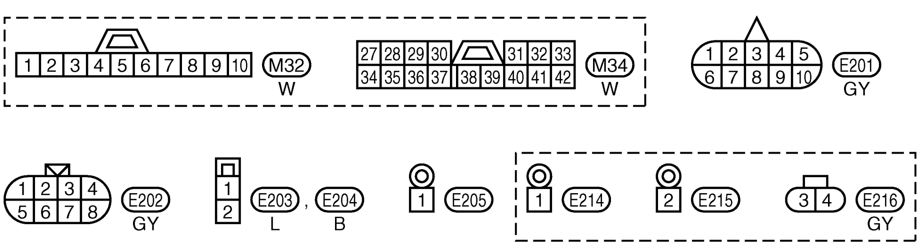
M3

TEL483M

Wiring Diagram — CHARGE —/Pickup Models

EL-CHARGE-03





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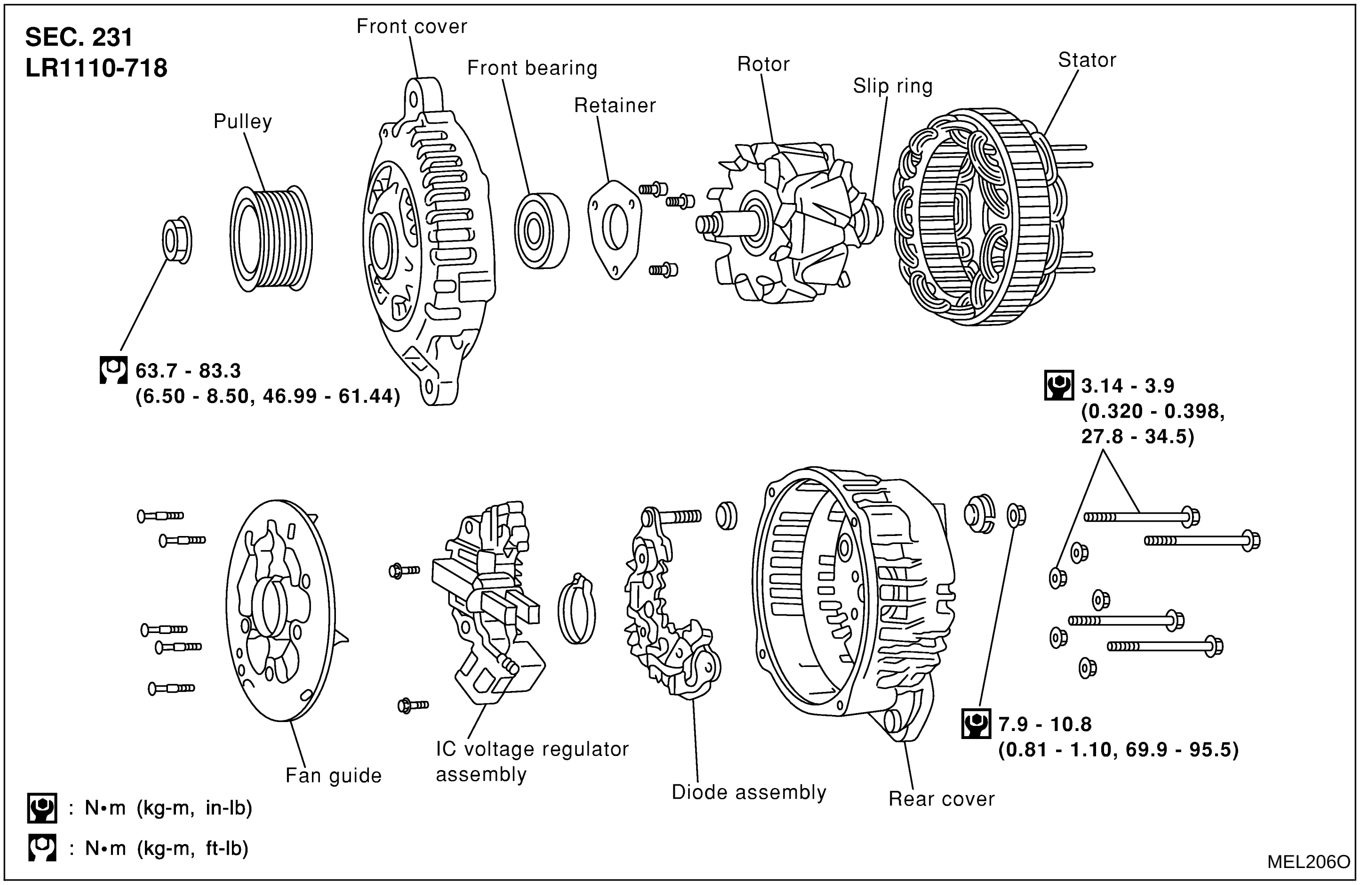
M21 , E127

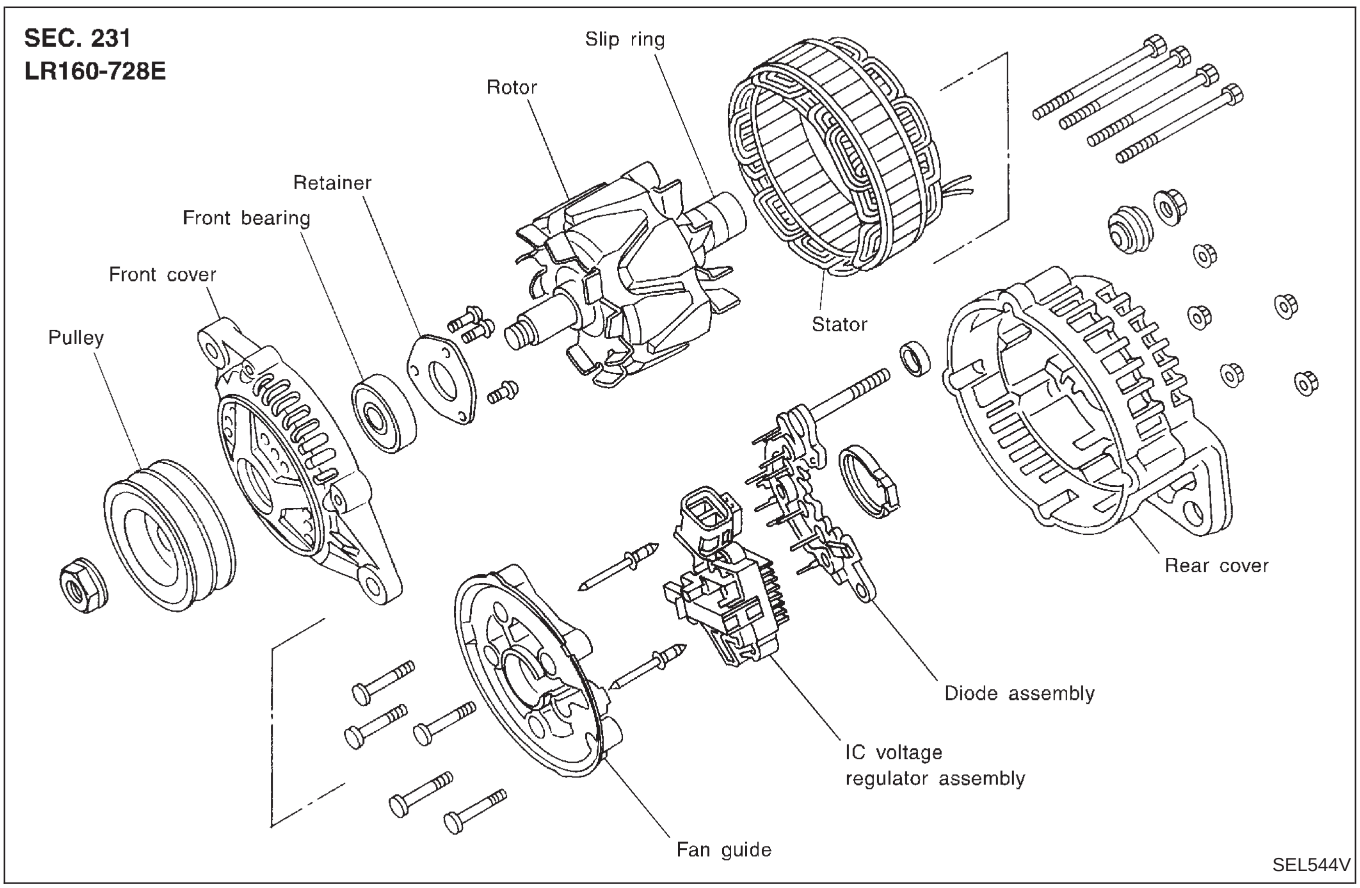
M3

TEL386M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Construction





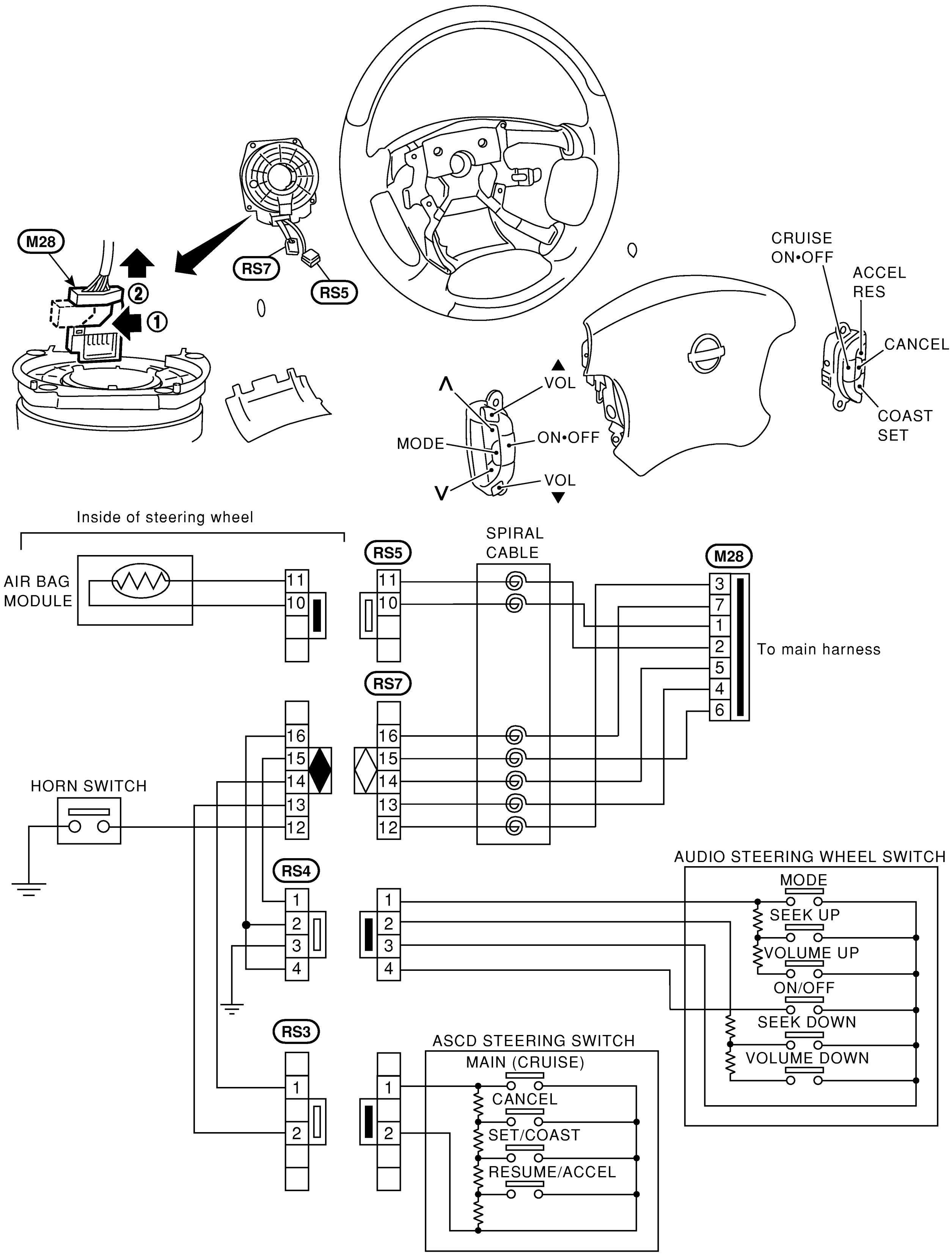
Service Data and Specifications (SDS)

ALTERNATOR

Type	LR1110-718	LR160-728E
	HITACHI	
Applied model	TB48DE	TD42
Nominal rating V-A	12-110	12-60
Ground polarity	Negative	
Minimum revolution under no-load (When 13.5V is applied) rpm	Less than 950	Less than 1,000
Hot output current (When 13.5V is applied) A/rpm	More than 35/1,300 More than 85/2,500 More than 110/5,000	More than 17/1,300 More than 48/2,500 More than 57/5,000
Regulated output voltage V	14.1 - 14.7	
Minimum length of brush mm (in)	6.0 (0.236)	
Brush spring pressure N (g, oz)	1.0 - 3.43 (102 - 350, 3.60 - 12.34)	
Slip ring minimum outer diameter mm (in)	26.0 (1.024)	
Rotor (Field coil) resistance Ω	2.31	2.58

Check

WITH ASCD AND AUDIO SWITCH EXCEPT FOR EUROPE

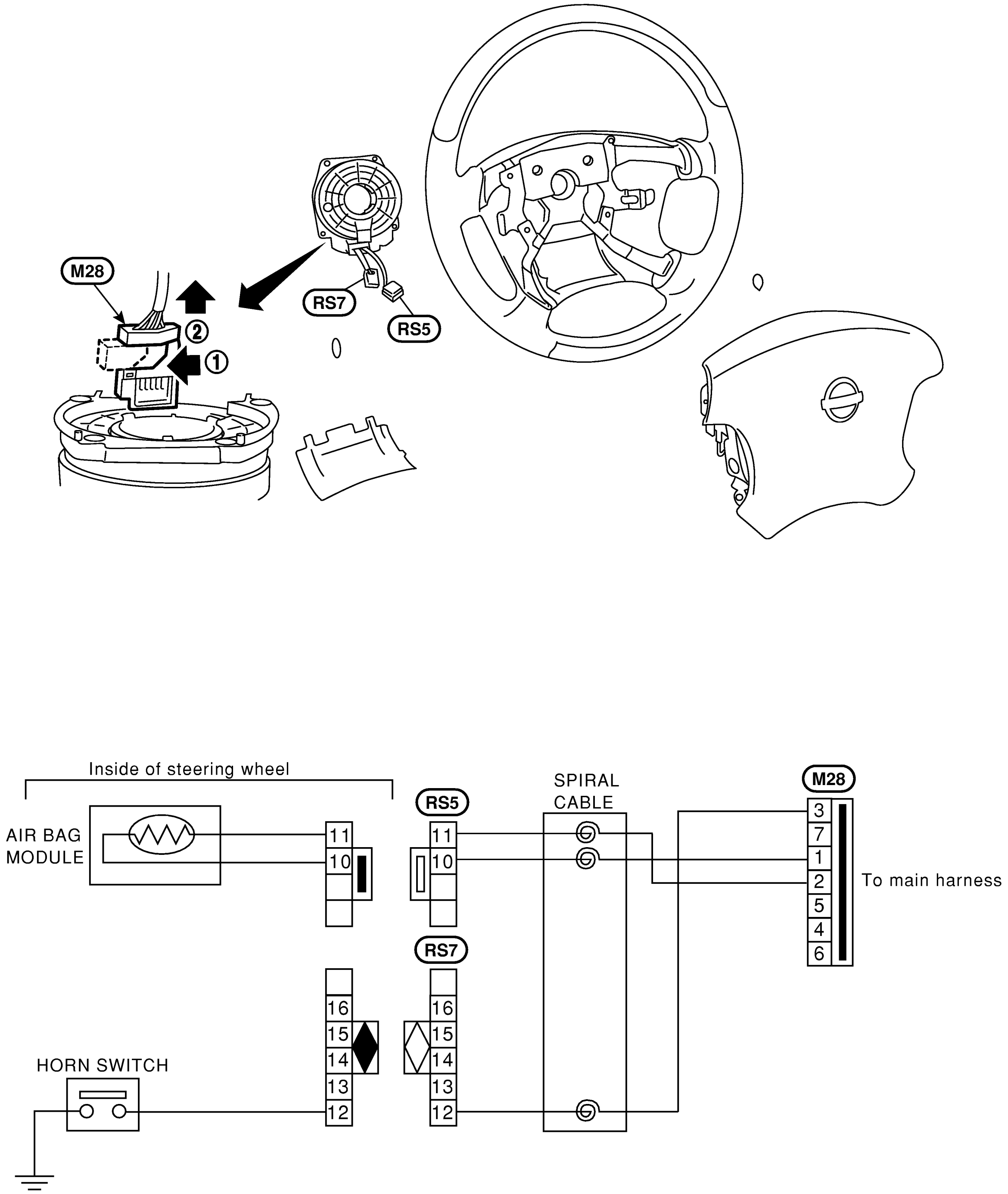


CEL310M

Check (Cont'd)

WITHOUT ASCD AND AUDIO SWITCH EXCEPT FOR EUROPE

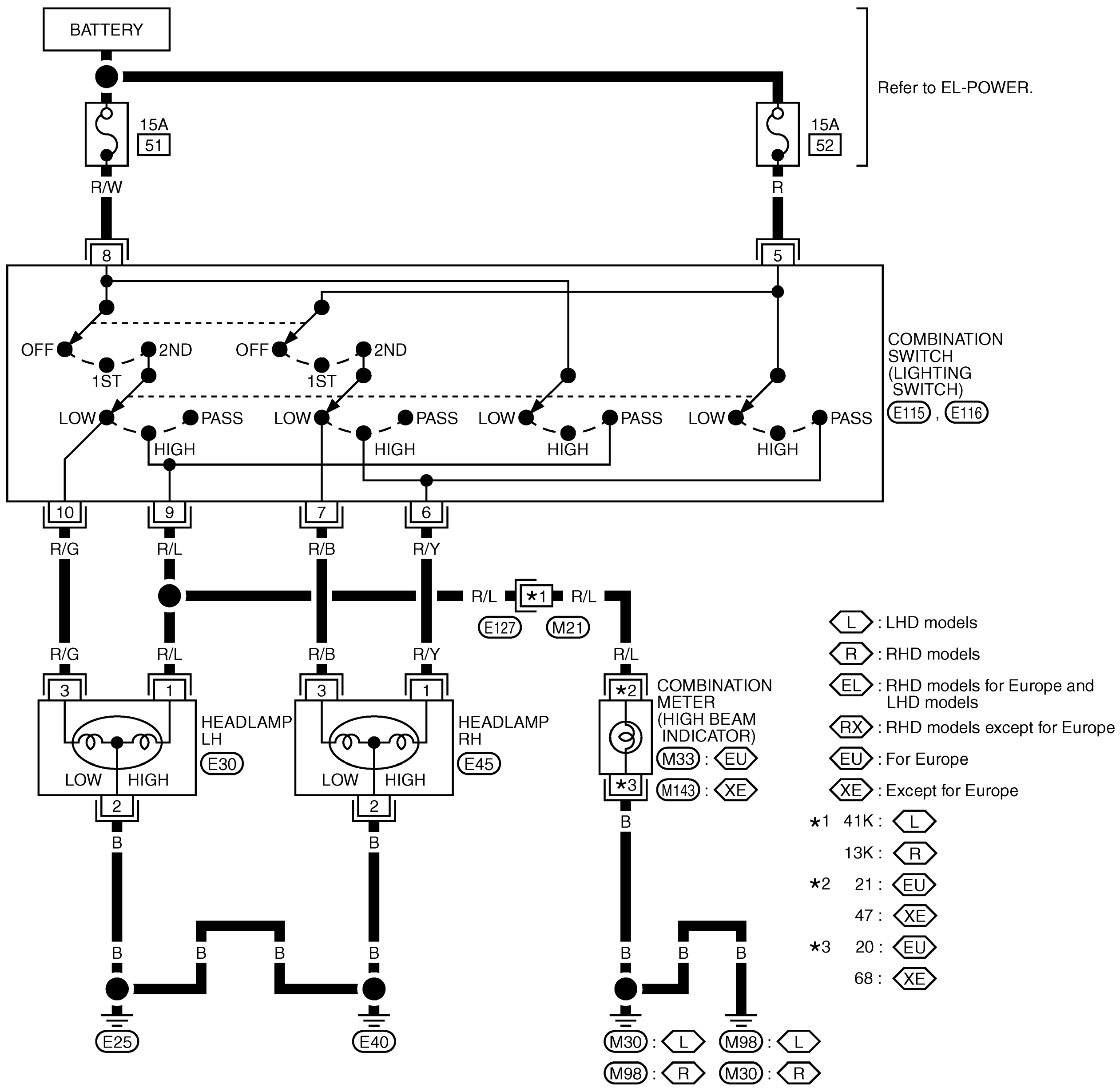
GI
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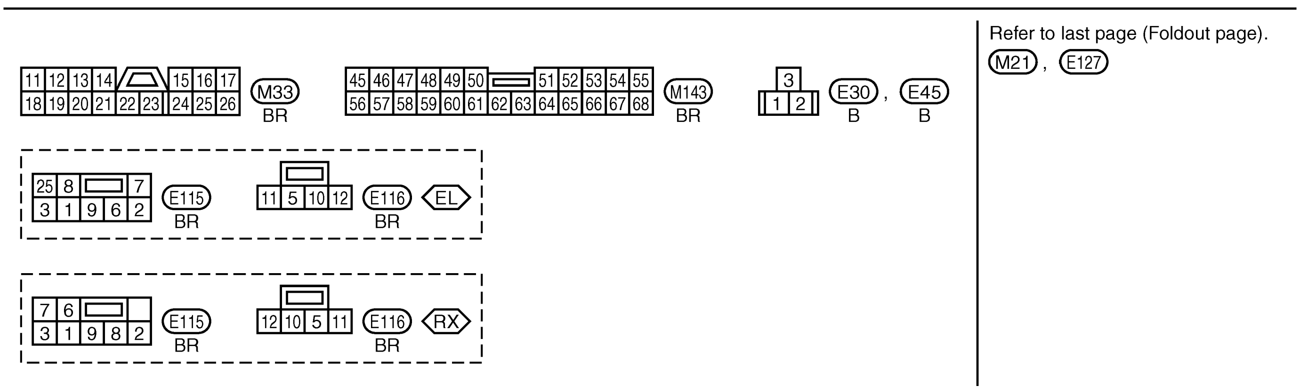


CEL311M

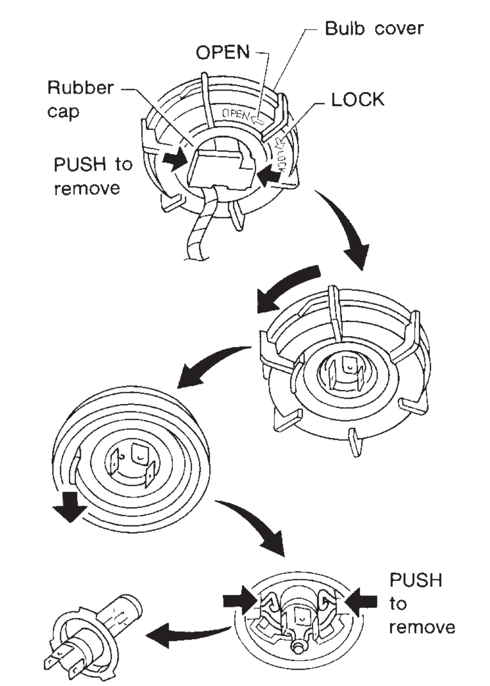
Wiring Diagram — H/LAMP —

EL-H/LAMP-01





TEL387M



SEL995K

Bulb Replacement

The headlamp is a semi-sealed beam type which uses a replaceable halogen bulb. The bulb can be replaced from the engine compartment side without removing the headlamp body.

- **Grasp only the plastic base when handling the bulb. Never touch the glass envelope.**

1. Disconnect the battery cable.
2. Turn the bulb retaining ring counterclockwise until it is free from the headlamp reflector, and then remove it.
3. Disconnect the harness connector from the back side of the bulb.
4. Remove the headlamp bulb carefully. Do not shake or rotate the bulb when removing it.
5. Install in the reverse order of removal.

CAUTION:
Do not leave headlamp reflector without bulb for a long period of time. Dust, moisture, smoke, etc. entering headlamp body may affect the performance of the headlamp. Remove headlamp bulb from the headlamp reflector just before a replacement bulb is installed.

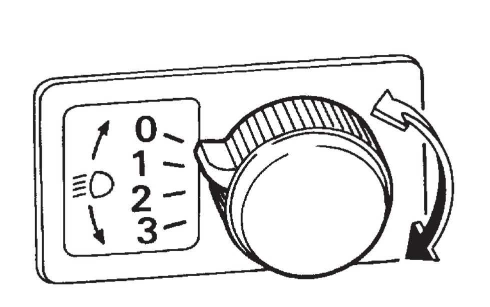
Aiming Adjustment

When performing headlamp aiming adjustment, use an aiming machine, aiming wall screen or headlamp tester. Aimers should be in good repair, calibrated and operated in accordance with respective operation manuals.

If any aimer is not available, aiming adjustment can be done as follows:

For details, refer to the regulations in your own country.

a. Keep all tires inflated to correct pressures.
b. Place vehicle and tester on one and same flat surface.
c. See that there is no-load in vehicle (coolant, engine oil filled up to correct level and full fuel tank) other than the driver (or equivalent weight placed in driver's position).

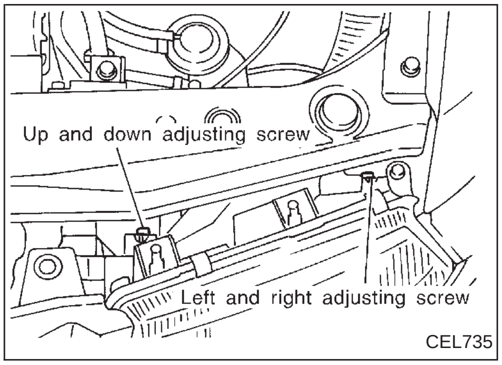


SEL466V

CAUTION:
Be sure aiming switch is set to "0" when performing aiming adjustment on vehicles equipped with headlamp aiming control.

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

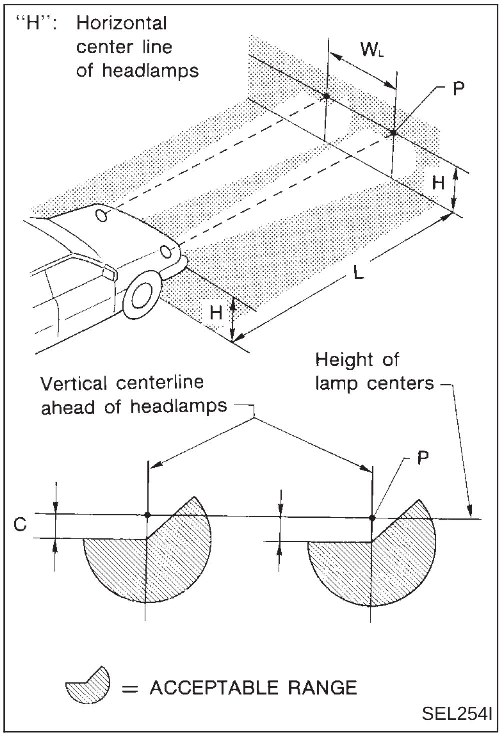
Aiming Adjustment (Cont'd)



LOW BEAM

1. Turn headlamp low beam on.
2. Use adjusting screws to perform aiming adjustment.

- **First tighten the adjusting screw all the way and then make adjustment by loosening the screw.**

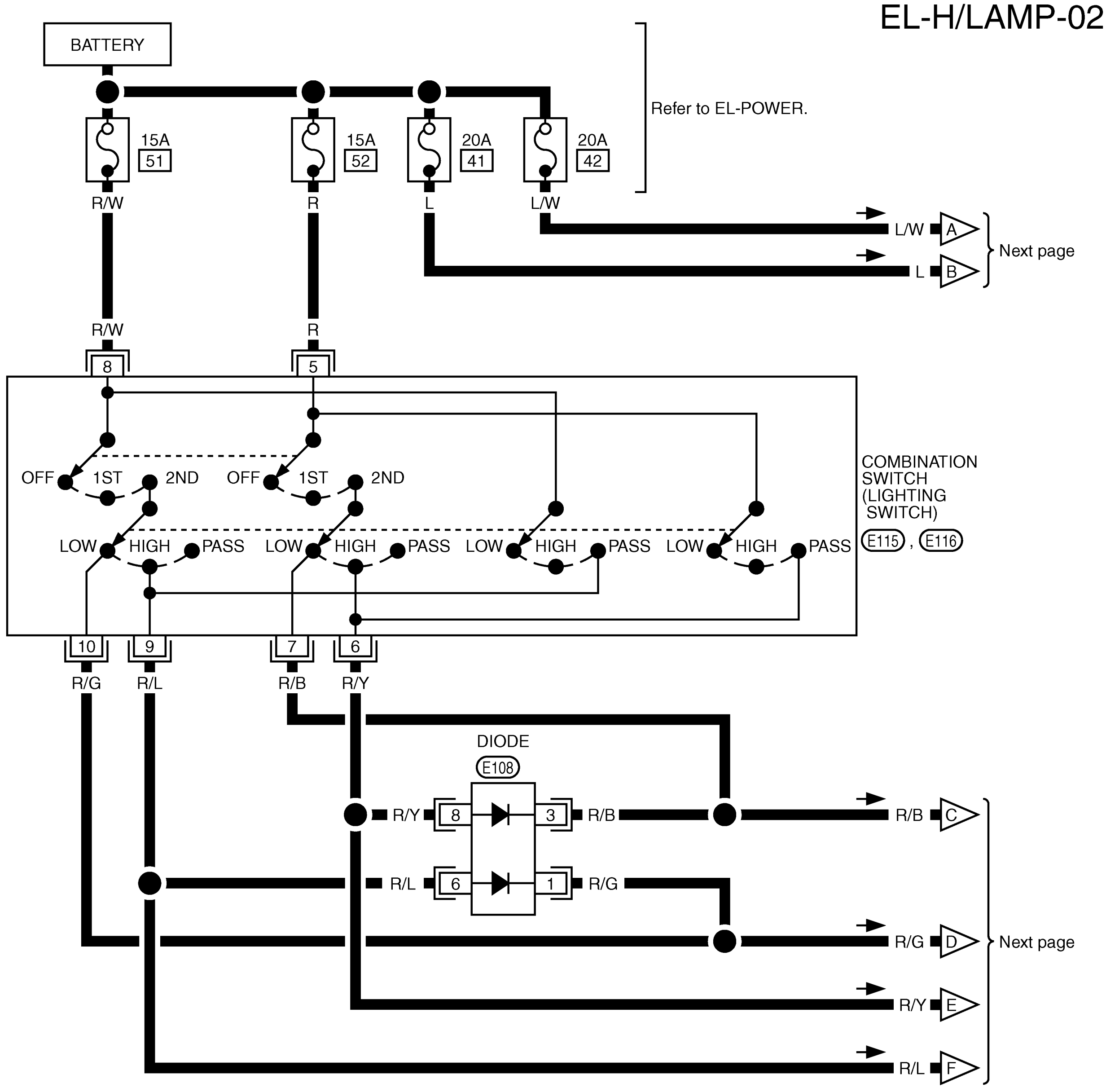


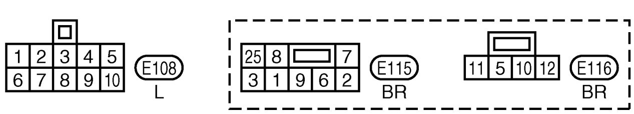
- **Adjust headlamps so that main axis of light is parallel to center line of body and is aligned with point P shown in illustration.**
- **Figure to the left shows headlamp aiming pattern for driving on right side of road; for driving on left side of road, aiming pattern is reversed.**
- **Dotted lines in illustration show center of headlamp.**

"H": Horizontal center line of headlamps
"W_L": Distance between each headlamp center
"L": 5,000 mm (196.85 in)
"C": 63 mm (2.48 in)

Wiring Diagram — H/LAMP —

EL-H/LAMP-02



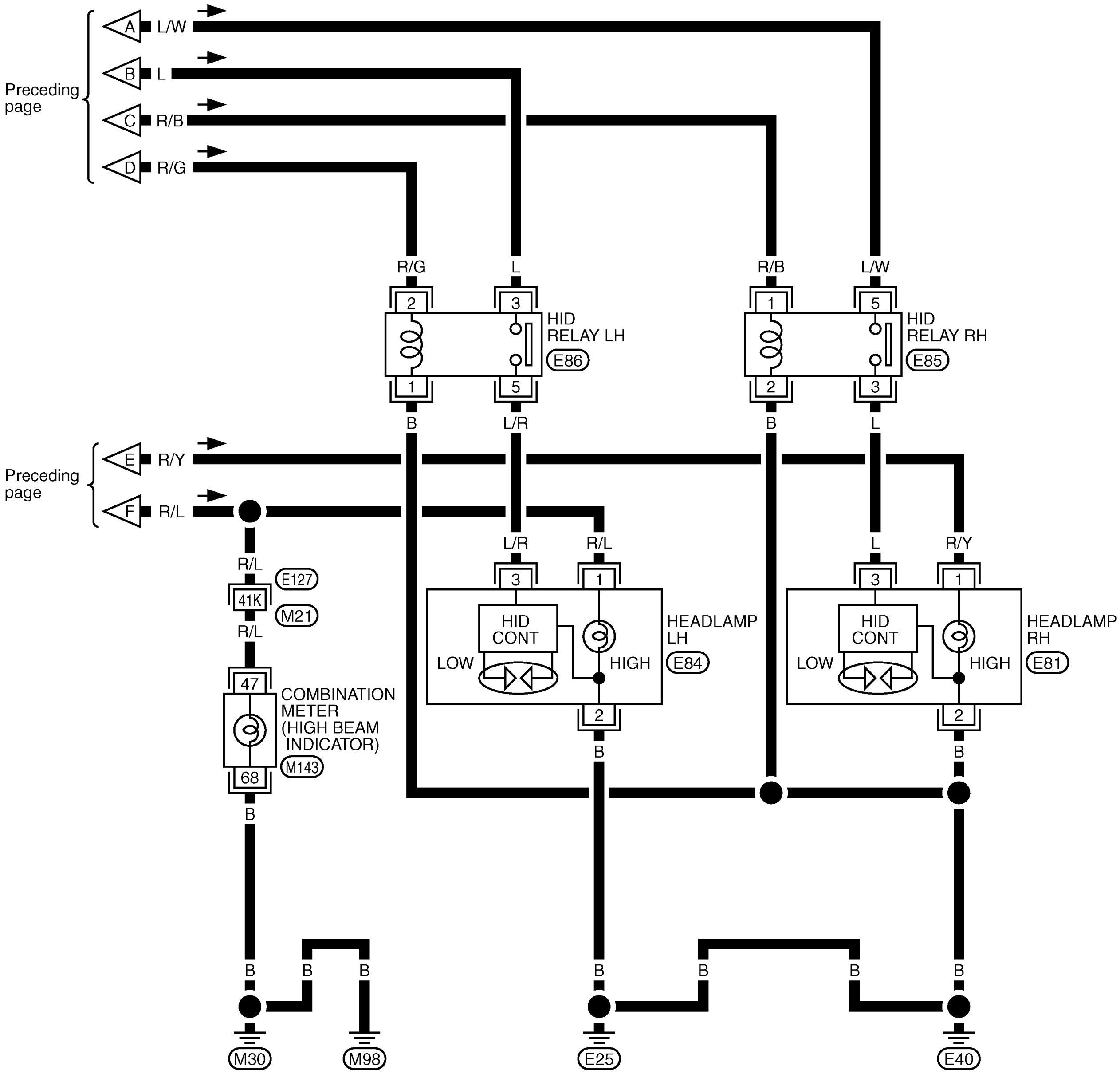


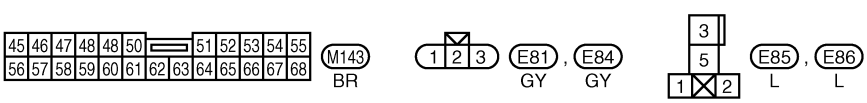
TEL487M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-03





Refer to last page (Foldout page).
M21 , E127

TEL388M

Bulb Replacement

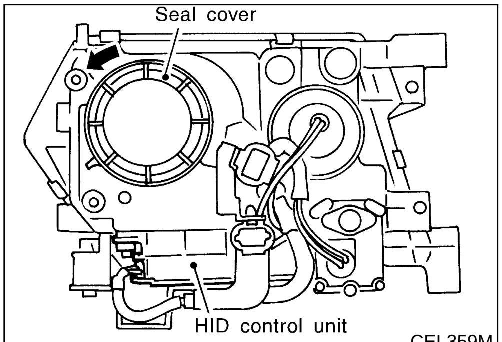
CAUTION:

- **After replacing a new xenon bulb, be sure to make aiming adjustments.**
- **Hold only the plastic base when handling the bulb. Never touch the glass envelope.**
- **Do not leave headlamp reflector without bulb for a long period of time. Dust, moisture, smoke, etc. entering headlamp body may affect the performance of the headlamp. Remove headlamp bulb from the headlamp reflector just before a replacement bulb is installed.**

1. Disconnect negative battery cable.
2. Remove side combination lamp and radiator grille.
3. Disconnect headlamp connector.
4. Remove headlamp assembly.

WARNING:

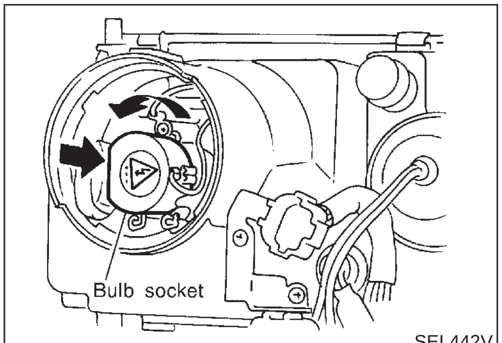
Never service a xenon headlamp with wet hands.



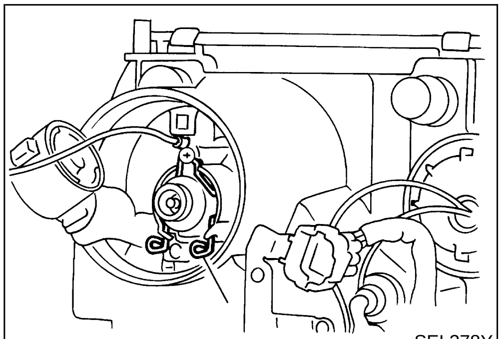
CEL359M

XENON BULB (LOW BEAM)

1. Remove headlamp seal cover by turning it counterclockwise.
2. Turn bulb socket counterclockwise with keep pushing, then remove it.



SEL442V

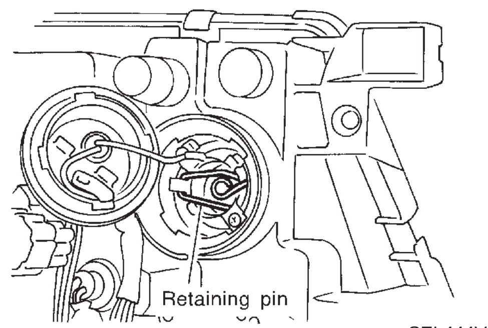

SEL378Y

3. Release retaining pin.
4. Remove the xenon bulb.
5. Install in the reverse order of removal.

CAUTION:

- **When disposing of the xenon bulb, do not break it; always dispose of it as is.**
- **Make sure to install the bulb securely; if the xenon bulb is improperly installed in its socket, high-tension current leaks occur. This may lead to a melted bulb and/or bulb socket.**

Bulb Replacement (Cont'd)



SEL444V

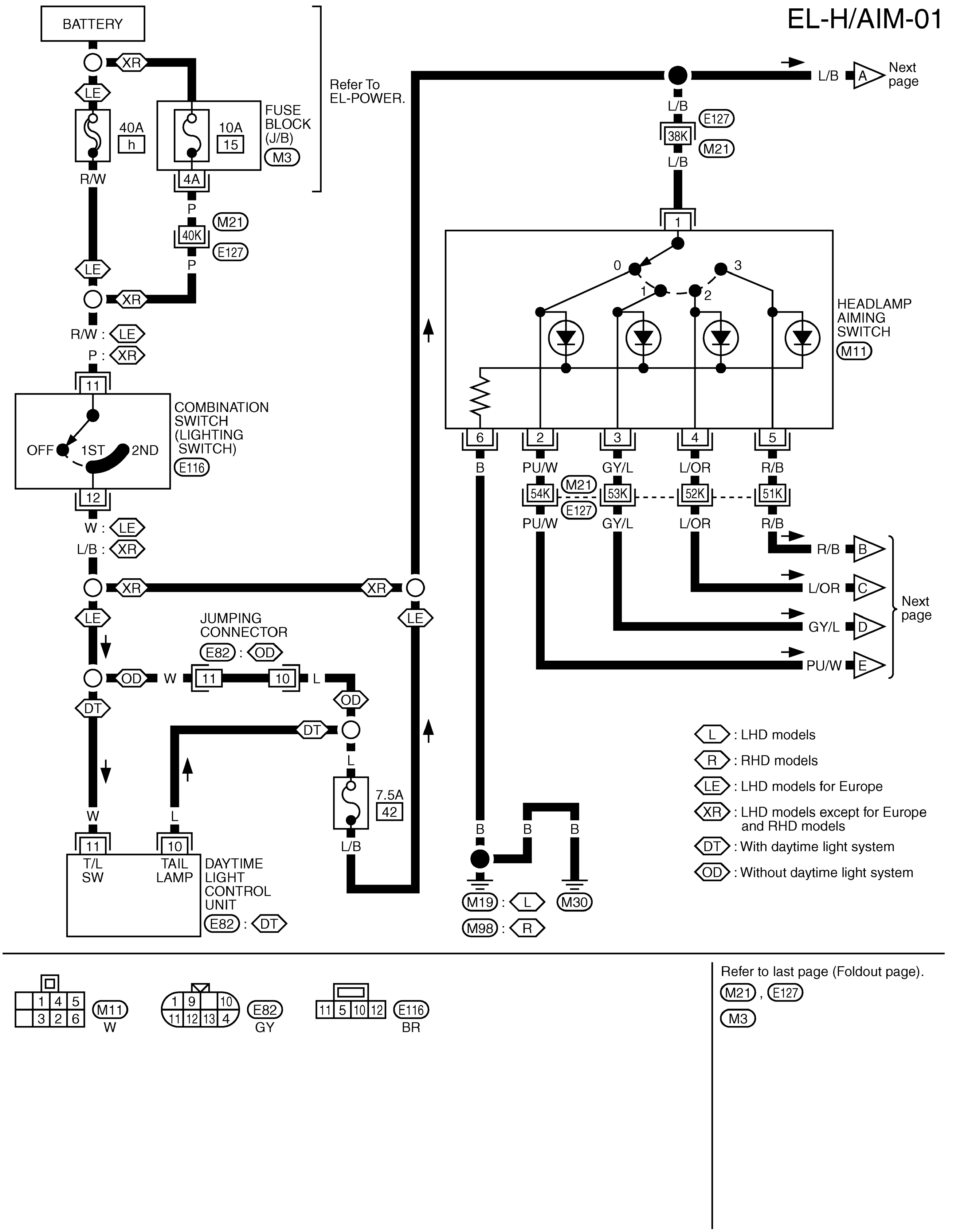
HIGH BEAM

1. Remove headlamp seal cover by turning it counterclockwise.
2. Disconnect bulb connector.
3. Release retaining pin.
4. Remove the bulb.
5. Install in the reverse order of removal.

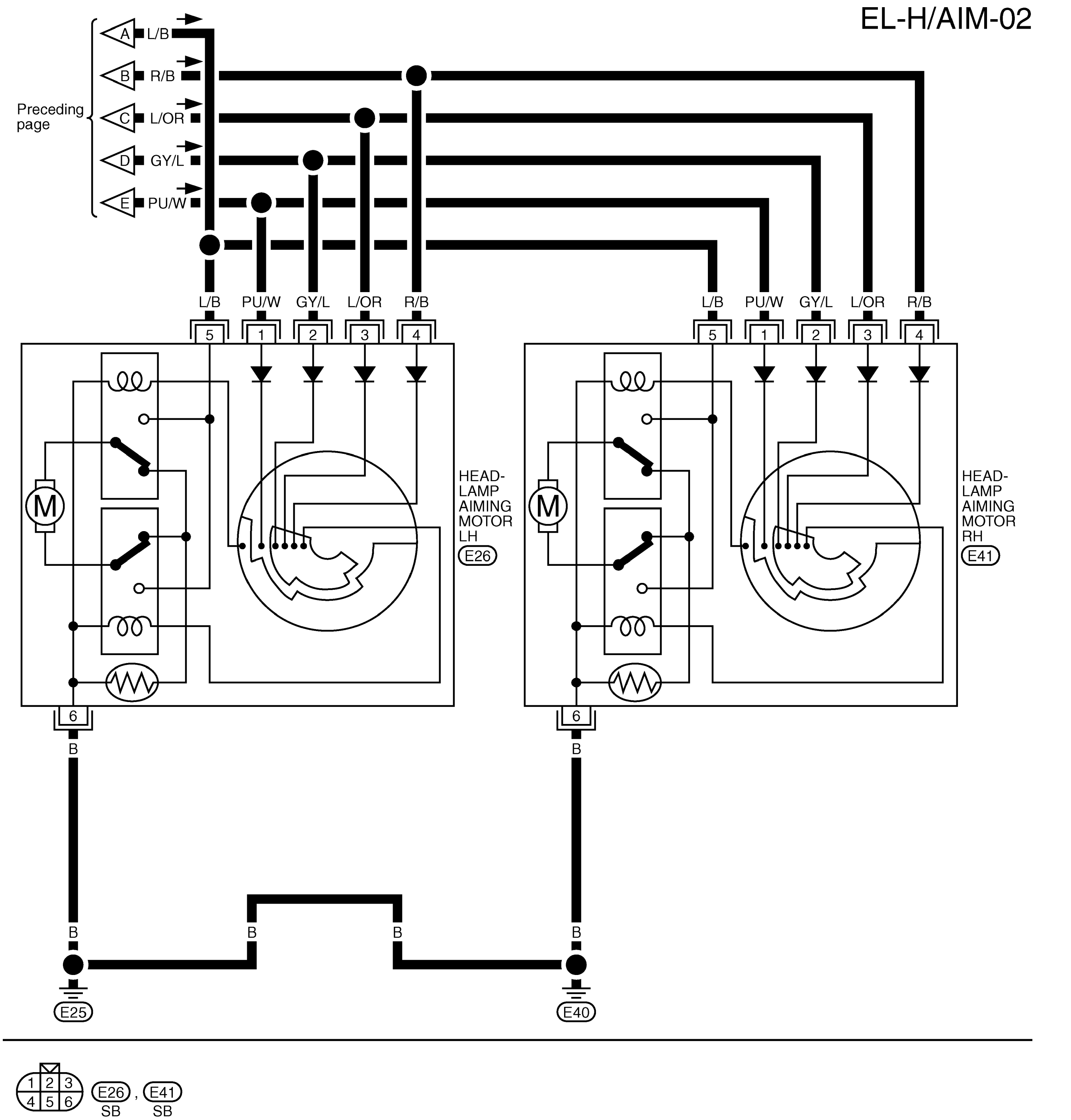
AIMING ADJUSTMENT

Refer to "HEADLAMP/WAGON AND HARDTOP MODELS — Conventional Type" (EL-61).

Wiring Diagram — H/AIM —



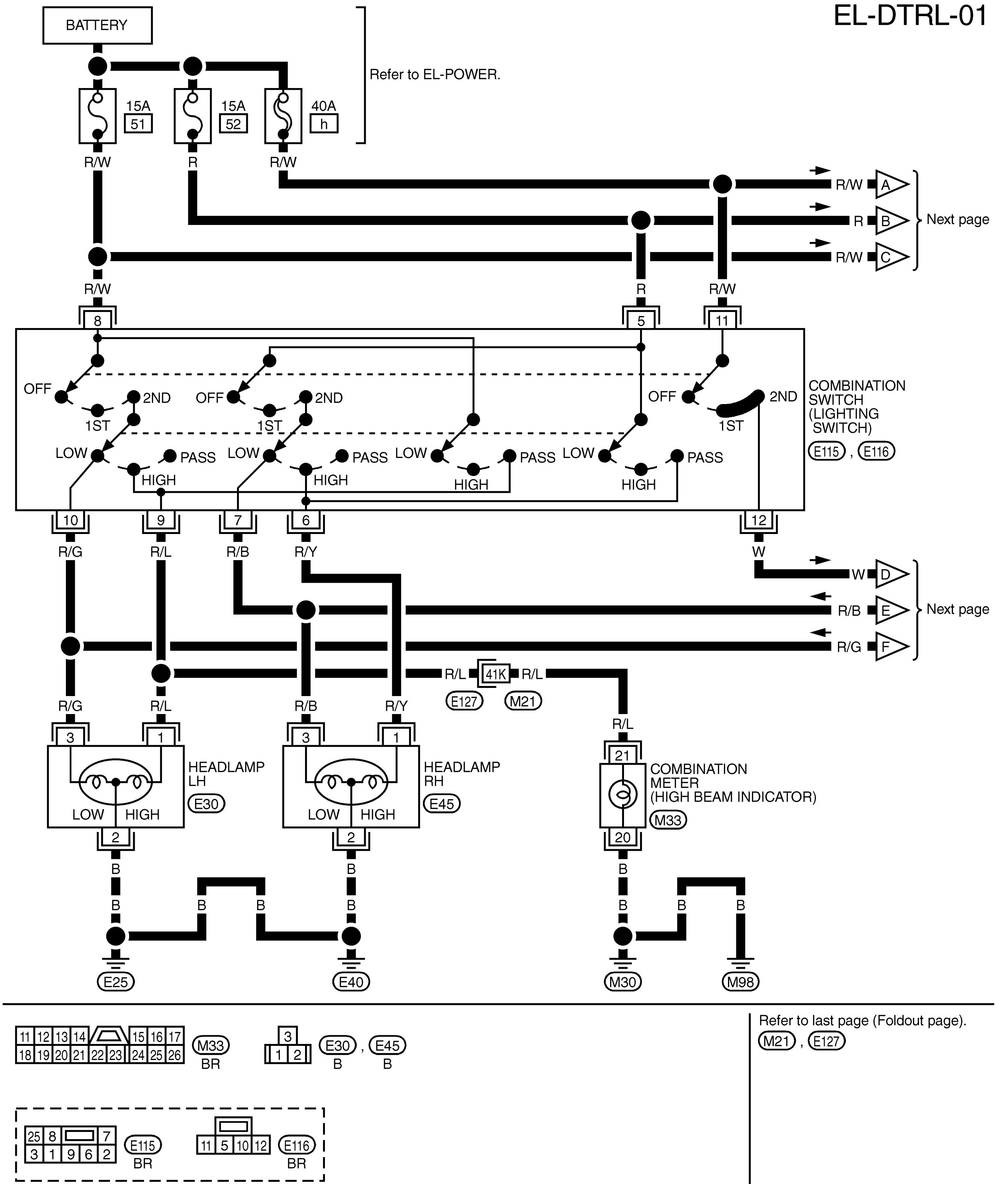
TEL389M


EL-H/AIM-02
Preceding page
A L/B
B R/B
C L/OR
D GY/L
E PU/W
L/B
PU/W
GY/L
L/OR
R/B
HEAD-LAMP AIMING MOTOR LH
E26
HEAD-LAMP AIMING MOTOR RH
E41
M
B
E25
E40
E26 SB
E41 SB

TEL390M

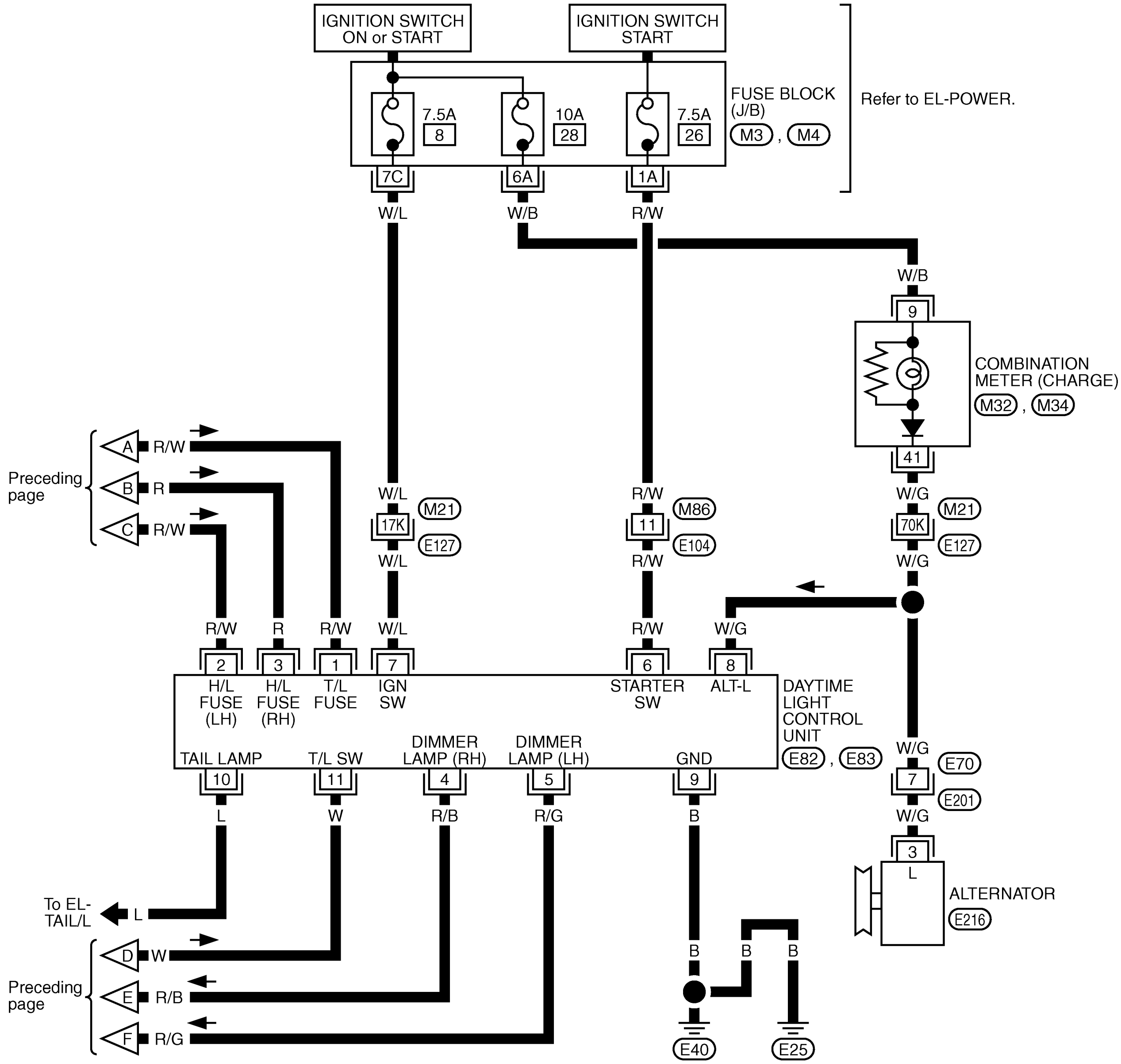
Wiring Diagram — DTRL —

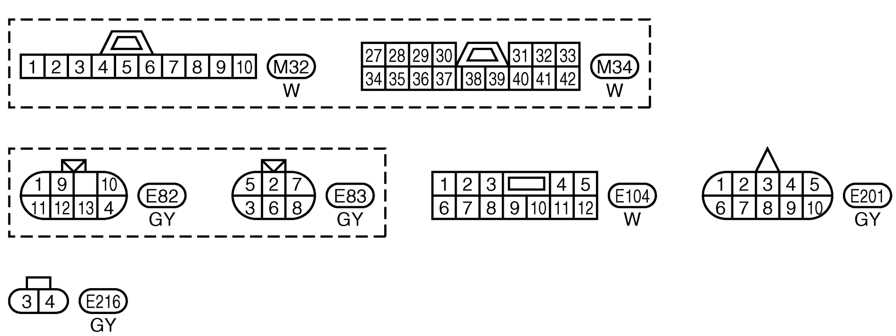
EL-DTRL-01



TEL675B

EL-DTRL-02





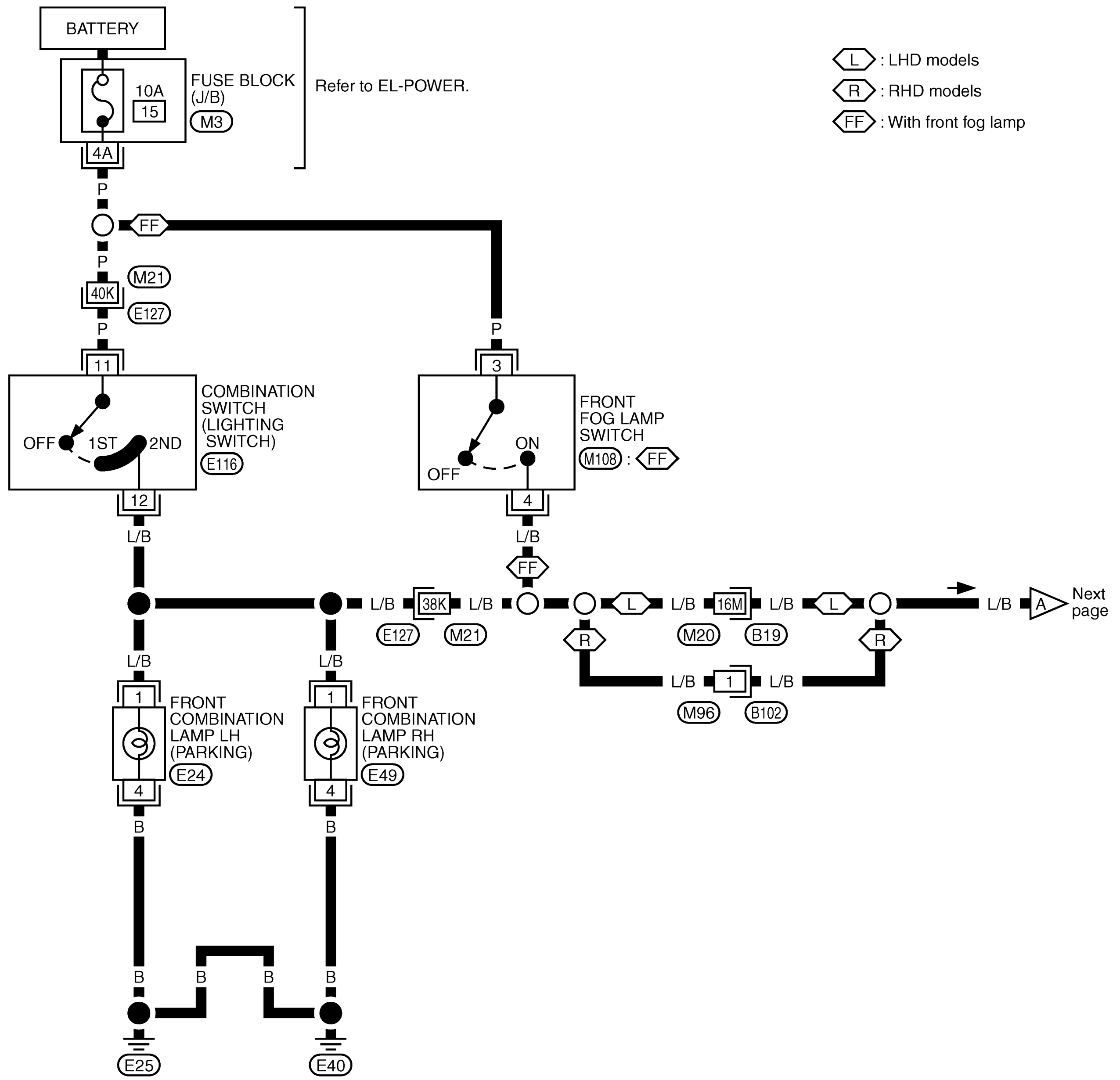
Refer to last page (Foldout page).
M21 , E127
M3
M4

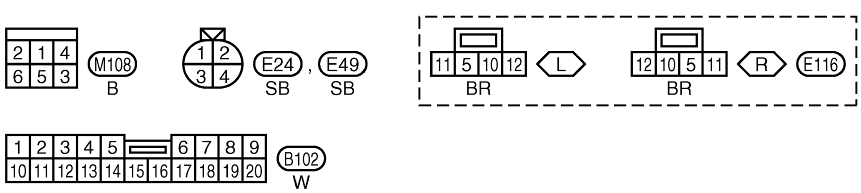
TEL484M

Wiring Diagram — TAIL/L —/Type A

Rear combination lamps are not located on rear bumper.

EL-TAIL/L-01



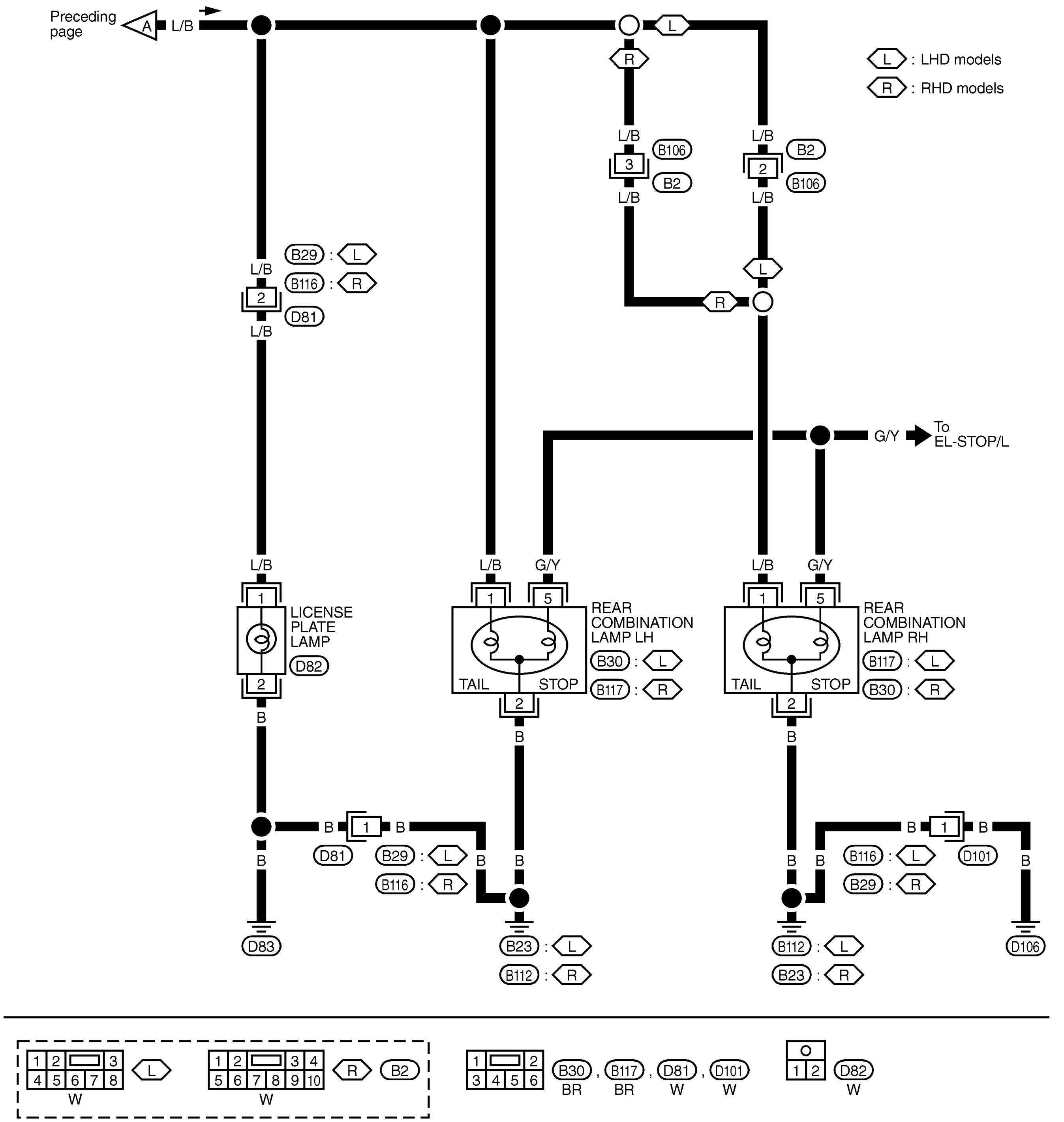


Refer to last page (Foldout page).
M20, B19
M21, E127
M3

TEL391M

Wiring Diagram — TAIL/L —/Type A (Cont'd)

EL-TAIL/L-02

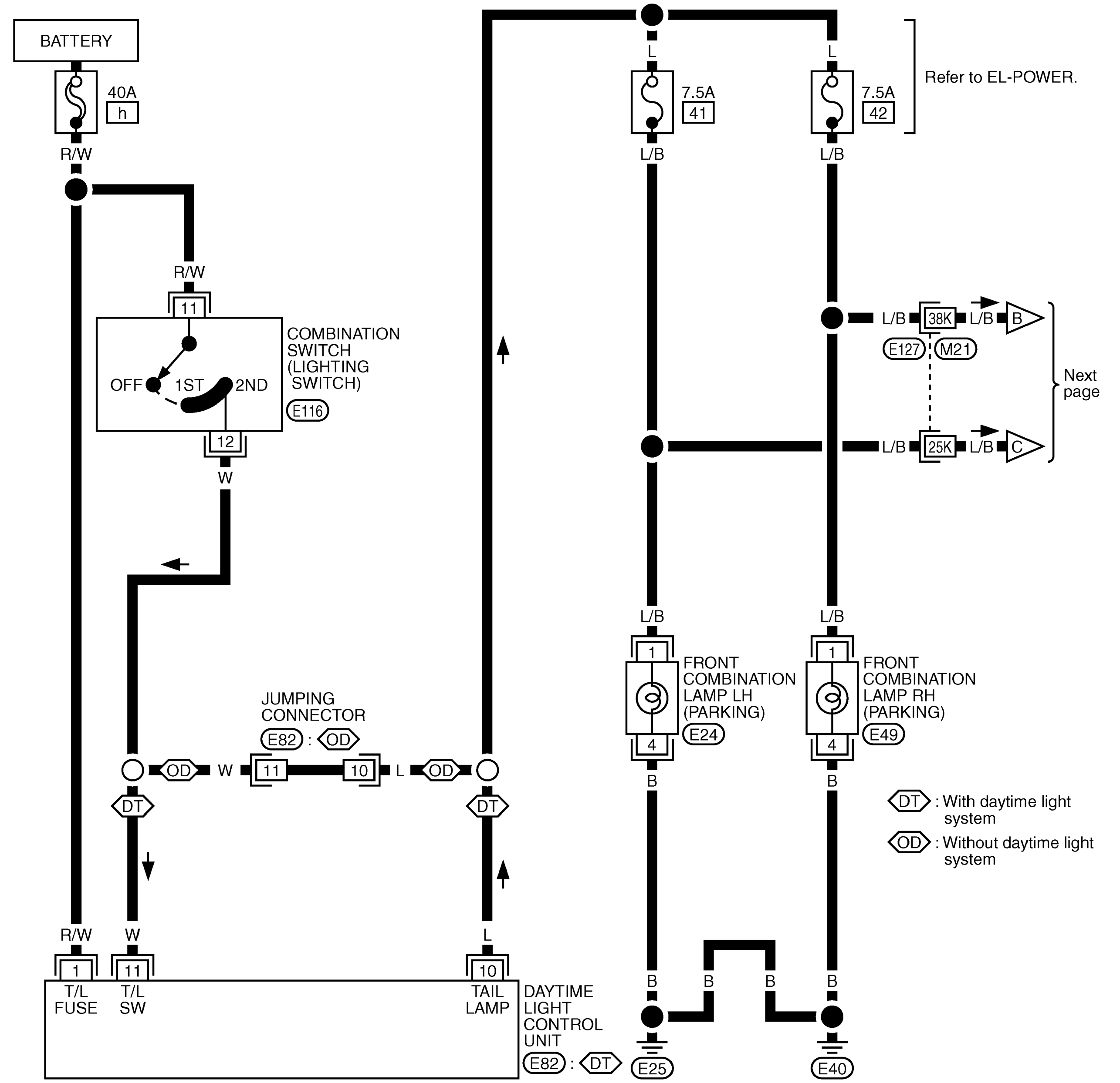


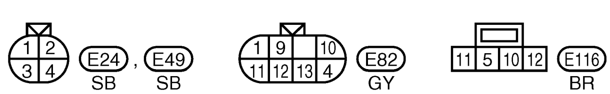
TEL212M

Wiring Diagram — TAIL/L —/Type B

LHD MODELS FOR EUROPE
Rear combination lamps are located on rear bumper.

EL-TAIL/L-03

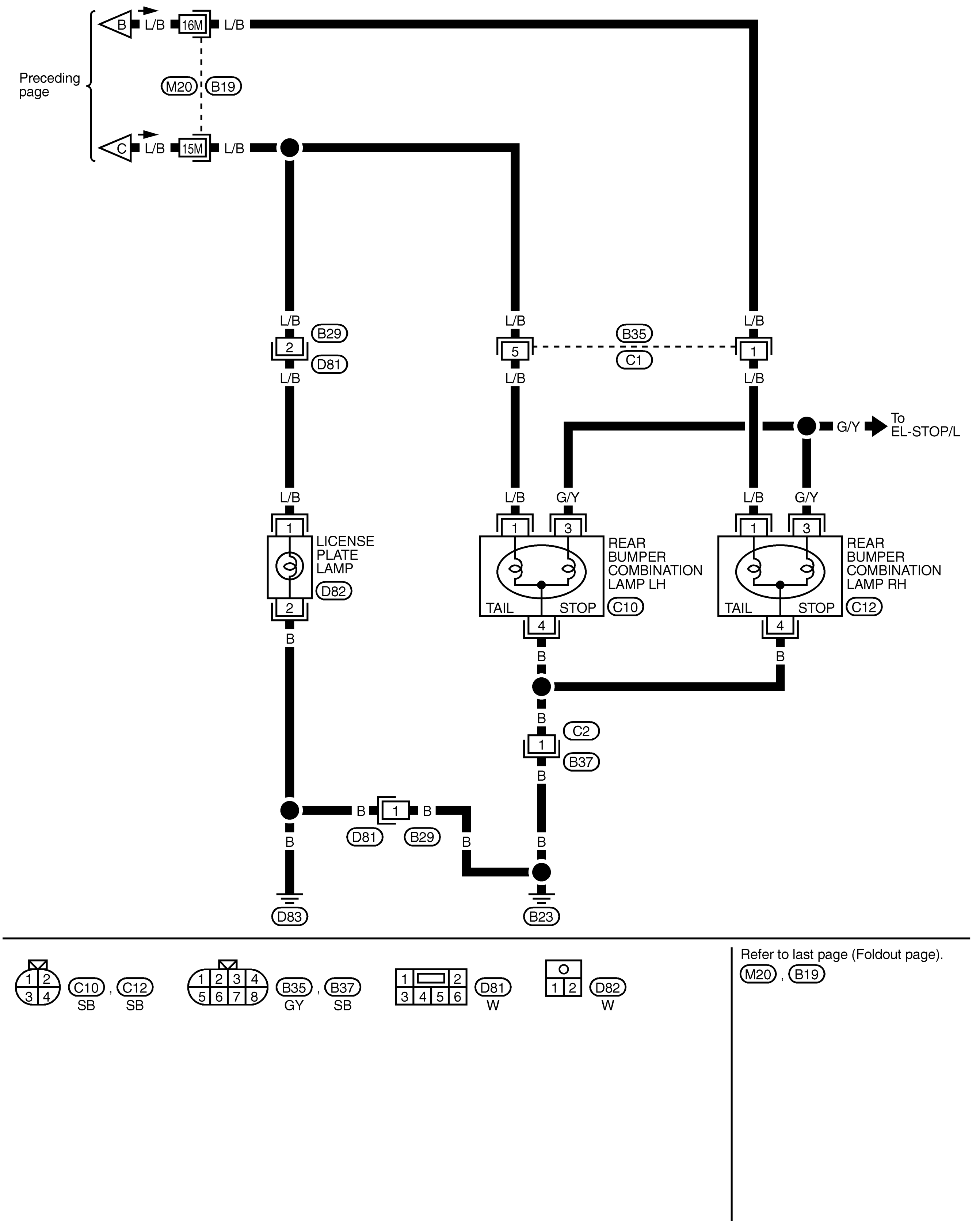




Refer to last page (Foldout page).
M21 , E127

Wiring Diagram — TAIL/L —/Type B (Cont'd)

EL-TAIL/L-04

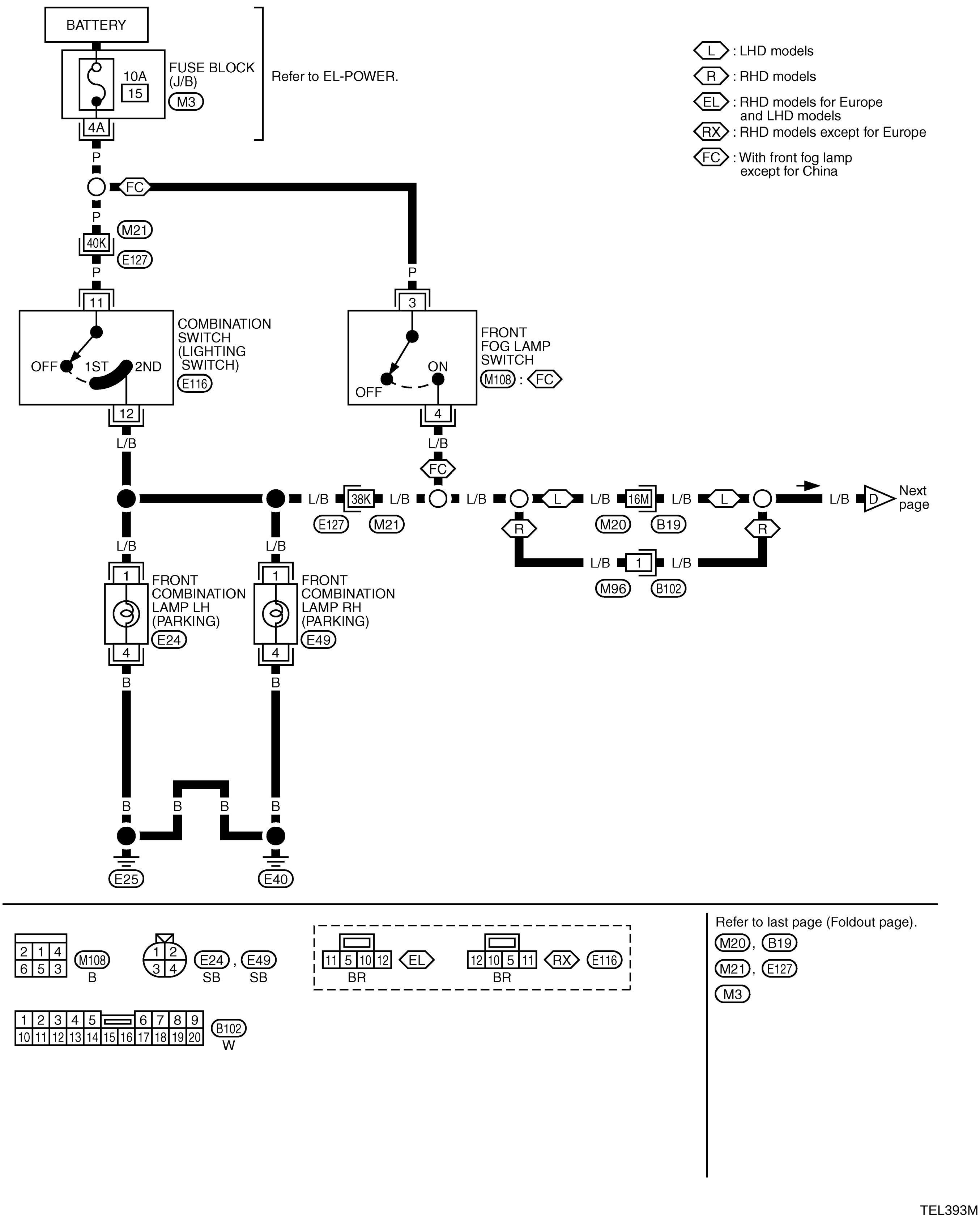


TEL213M

Wiring Diagram — TAIL/L —/Type C

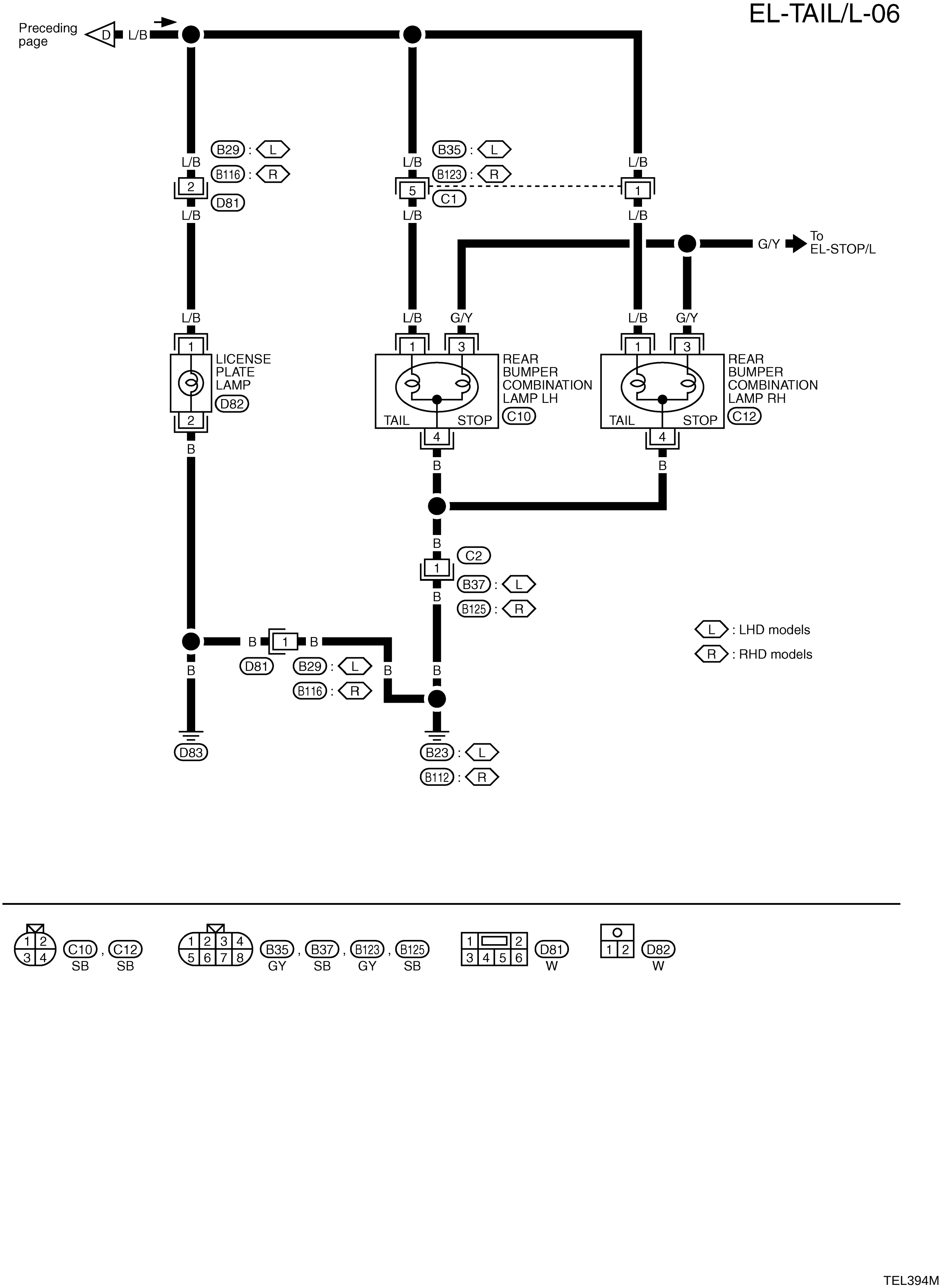
RHD MODELS FOR EUROPE, CHINA, AUSTRALIA AND SOUTH AFRICA
Rear combination lamps are located on rear bumper.

EL-TAIL/L-05



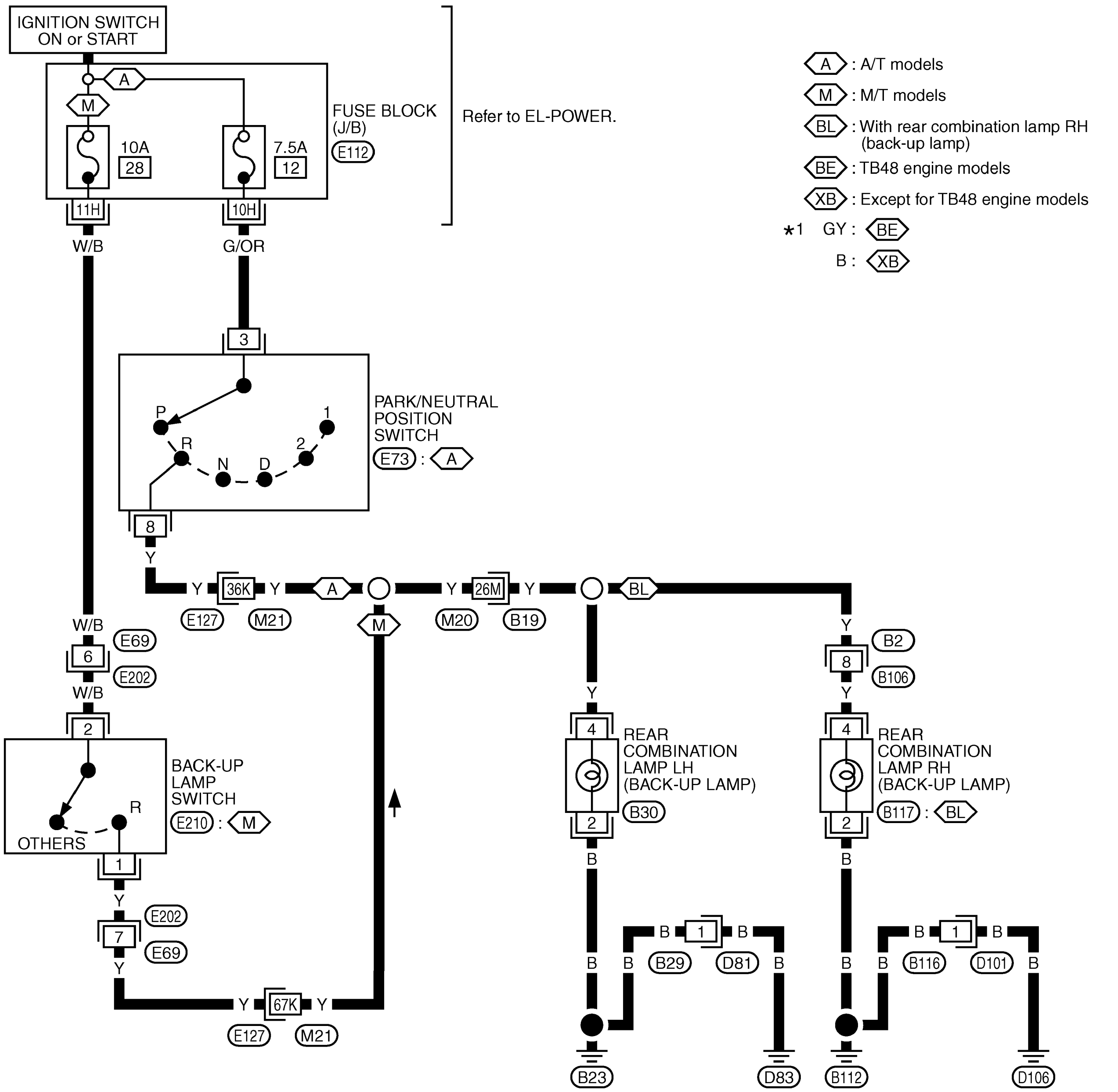
Wiring Diagram — TAIL/L —/Type C (Cont'd)

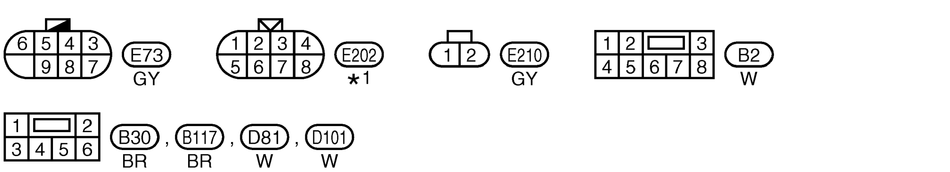
EL-TAIL/L-06



Wiring Diagram — BACK/L —/LHD Models Except for TB48 Engine with A/T

EL-BACK/L-01





Refer to last page (Foldout page).

M20 , B19

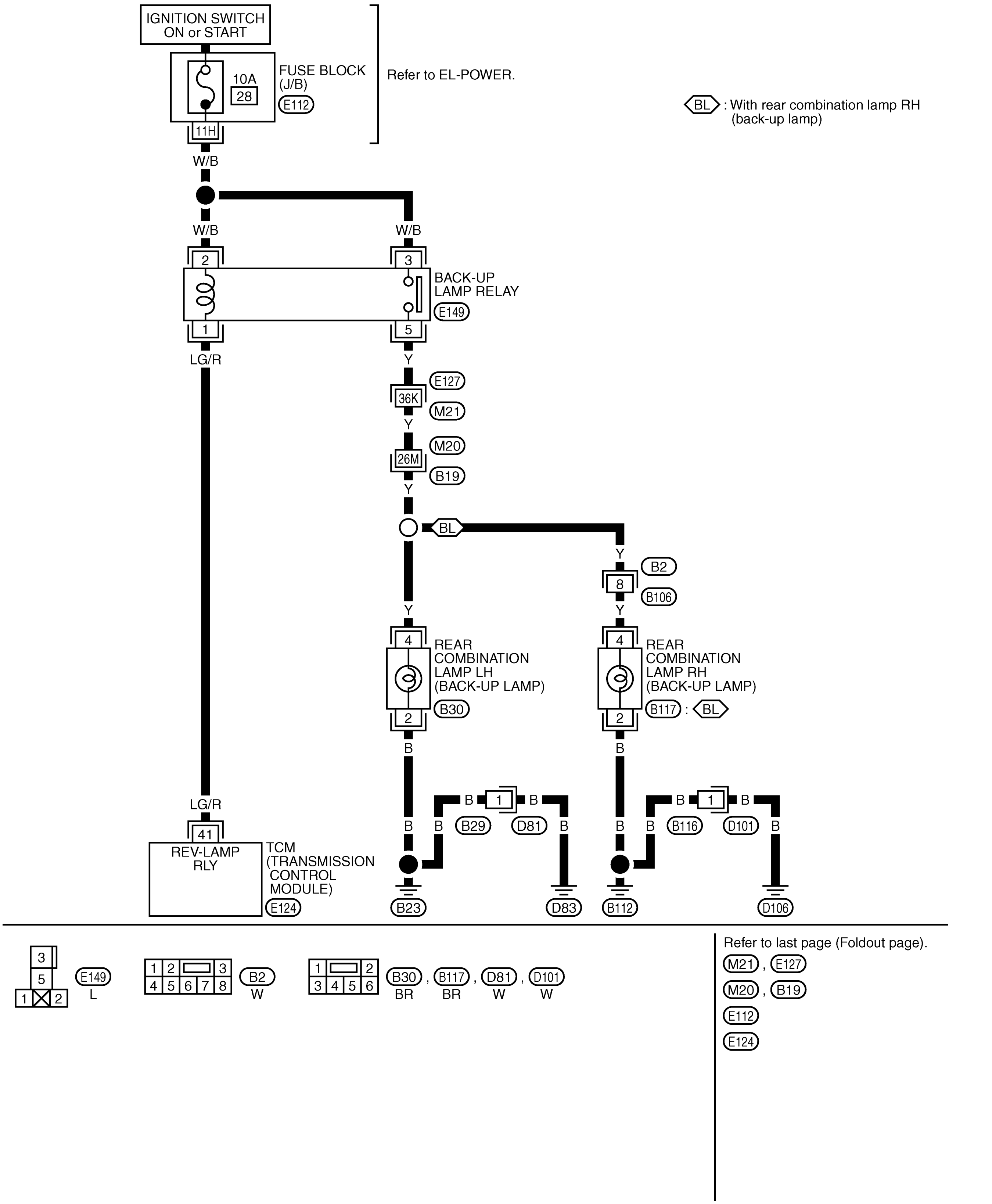
M21 , E127

E112

TEL395M

Wiring Diagram — BACK/L —/LHD Models for TB48 Engine with A/T

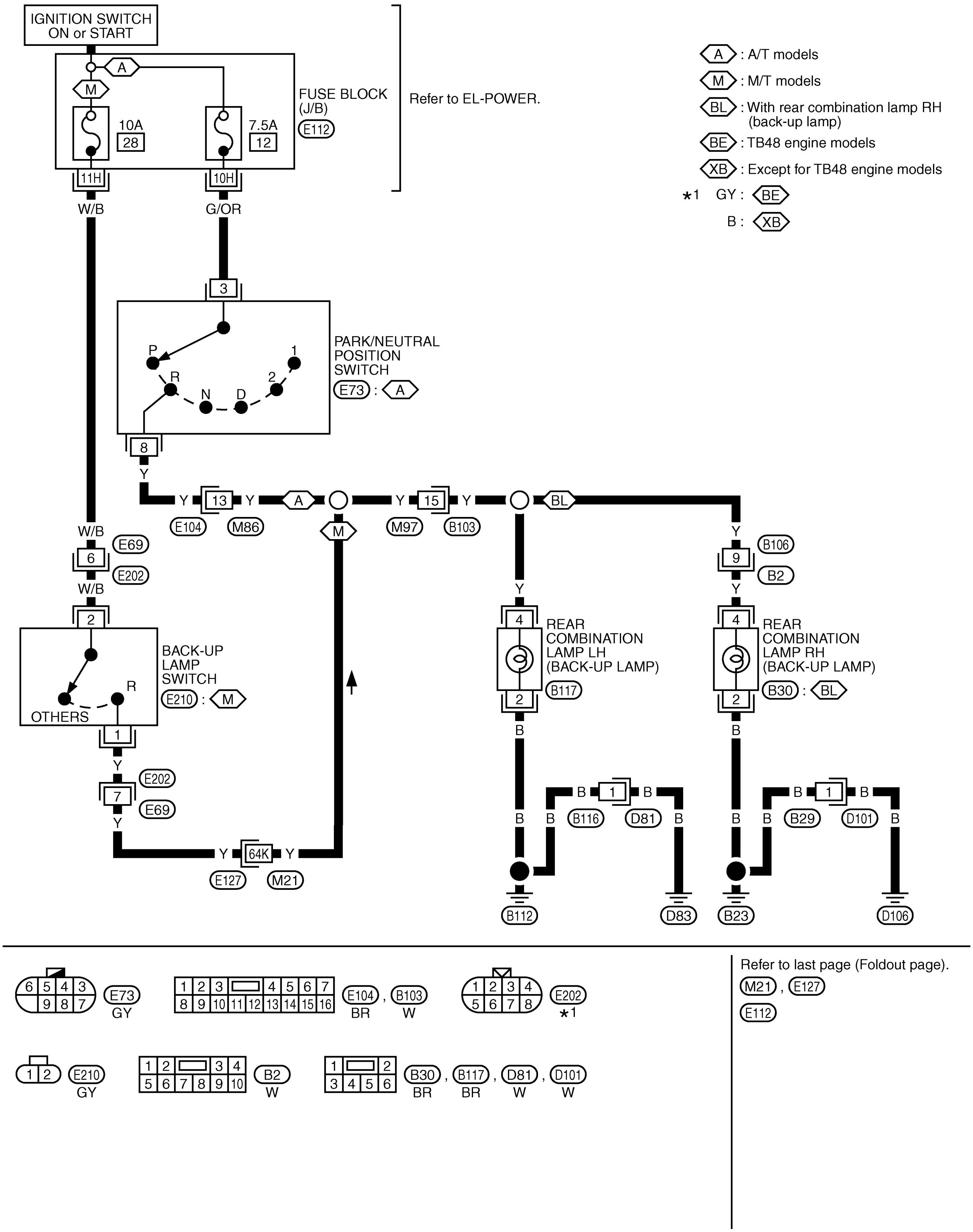
EL-BACK/L-02



TEL513M

Wiring Diagram — BACK/L —/RHD Models Except for TB48 Engine with A/T

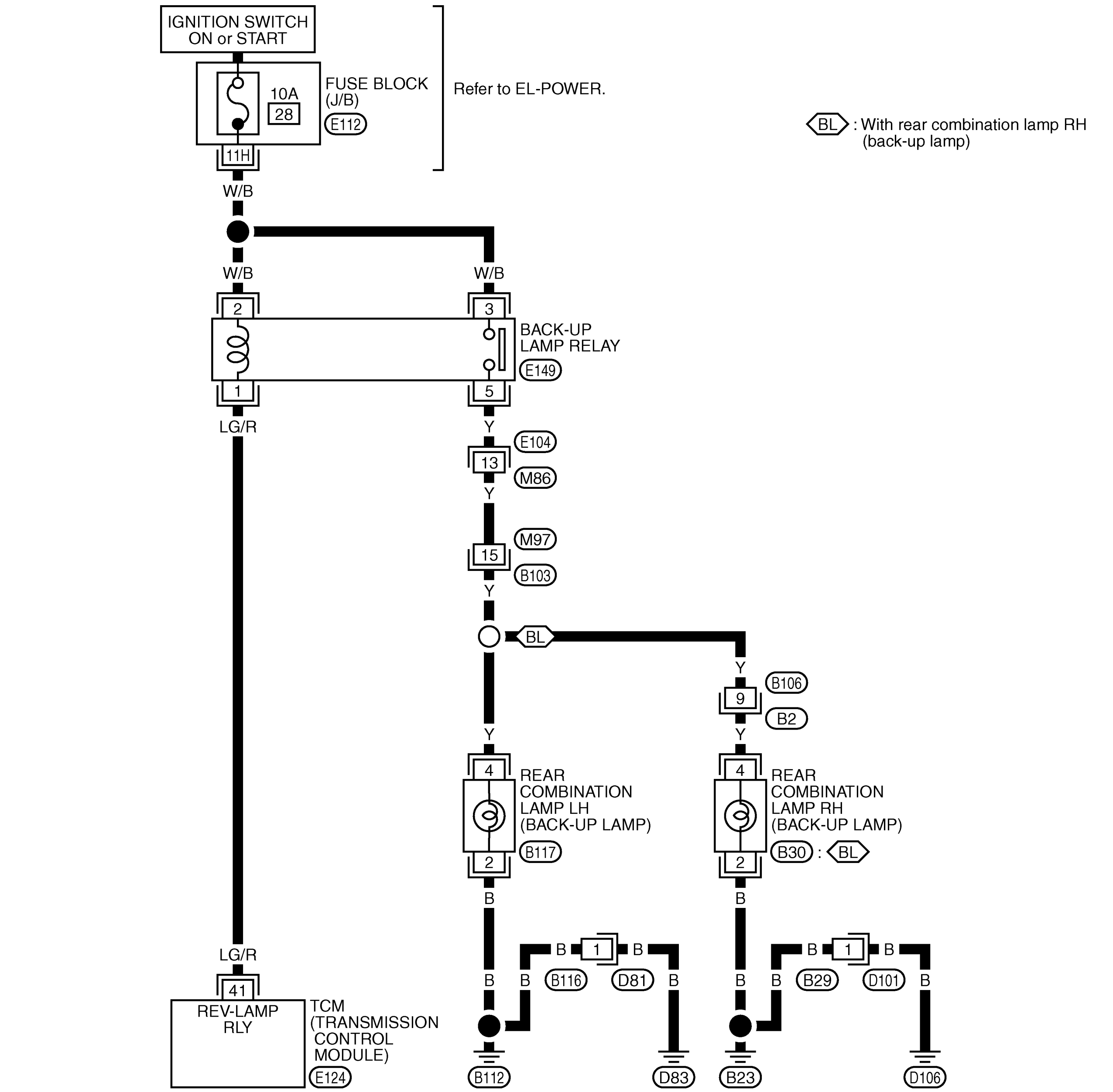
EL-BACK/L-03

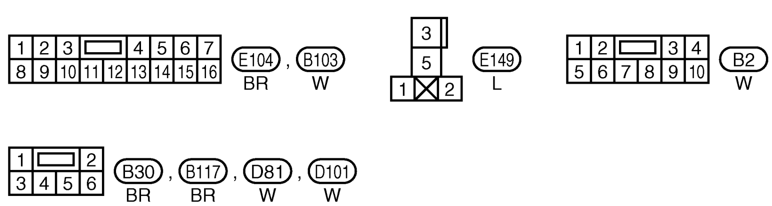


TEL514M

Wiring Diagram — BACK/L —/RHD Models for TB48 Engine with A/T

EL-BACK/L-04



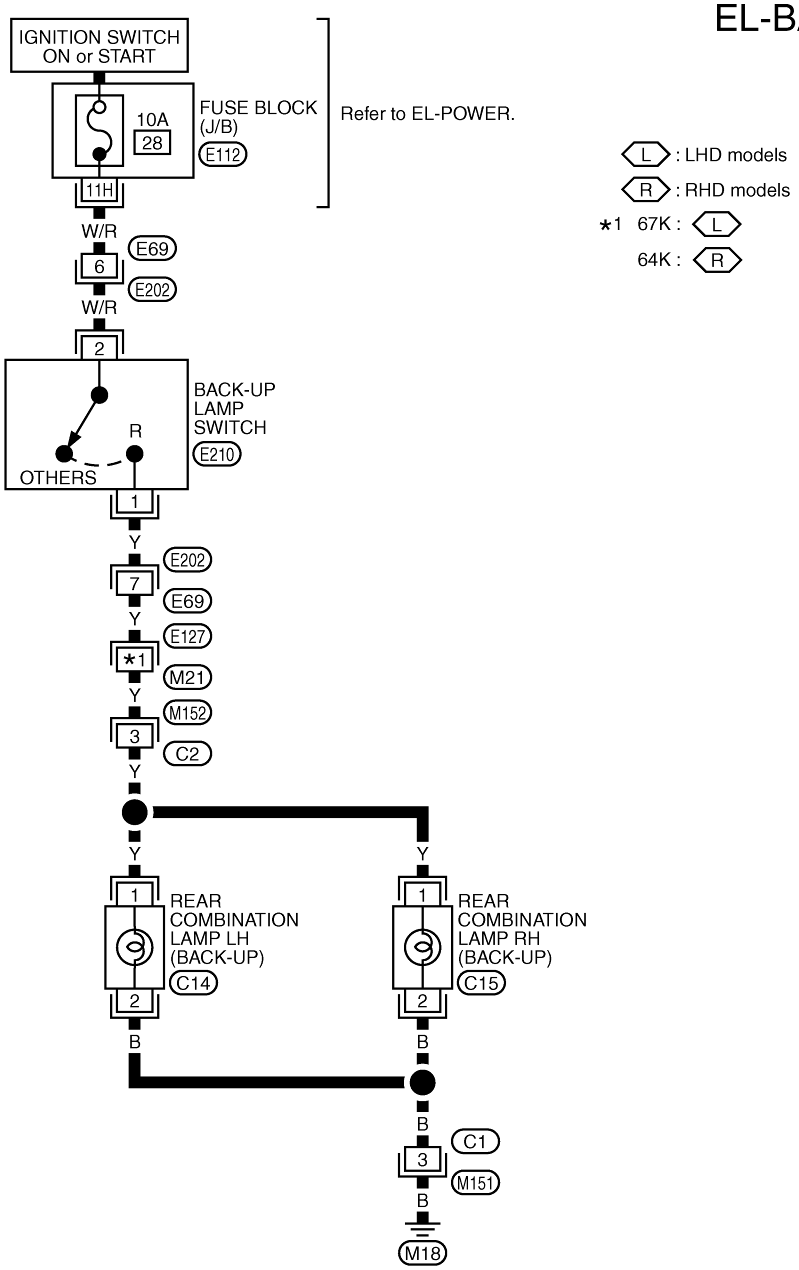


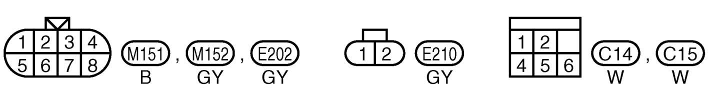
Refer to last page (Foldout page).
E112
E124

TEL515M

Wiring Diagram — BACK/L —

EL-BACK/L-05

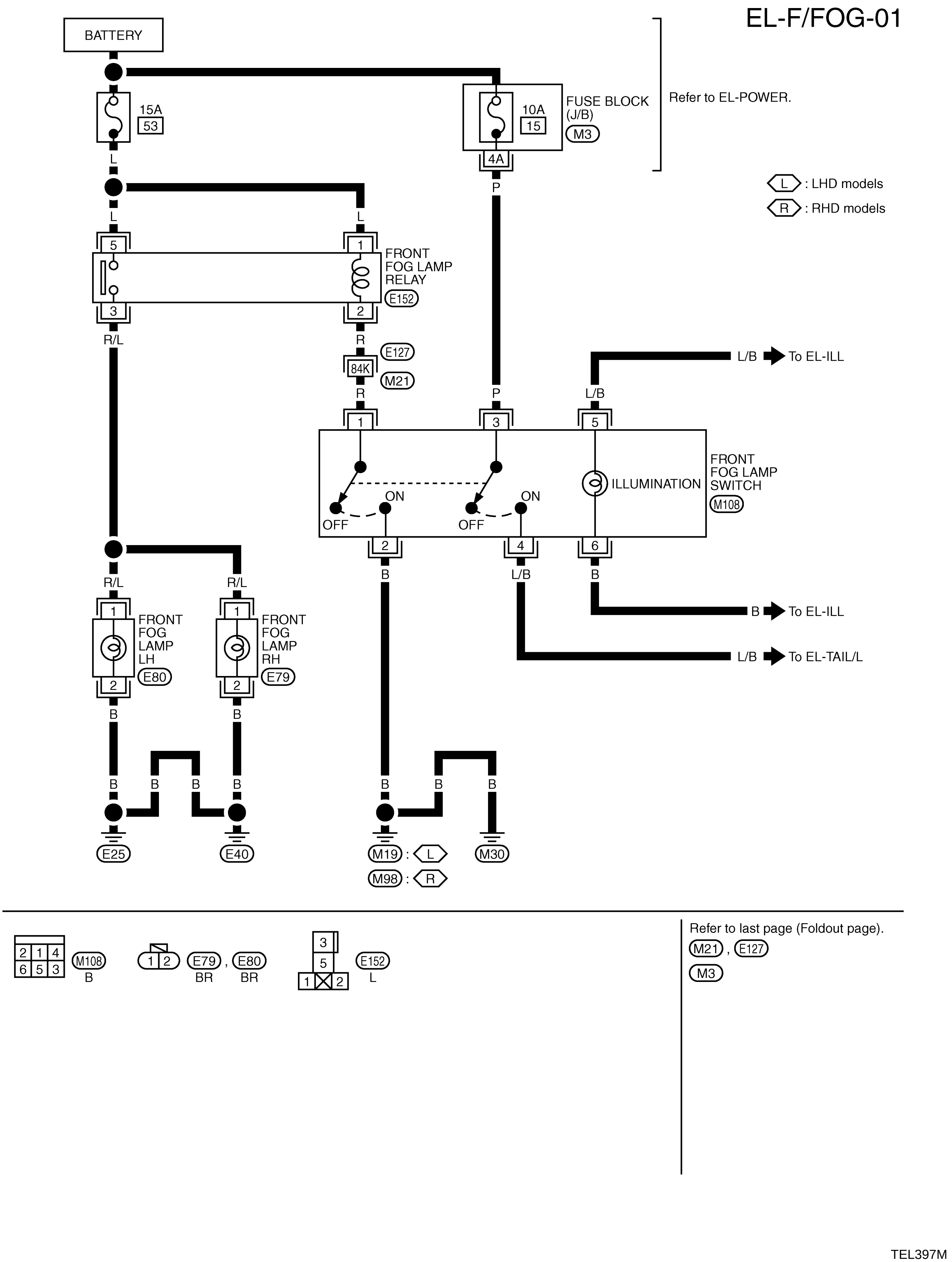




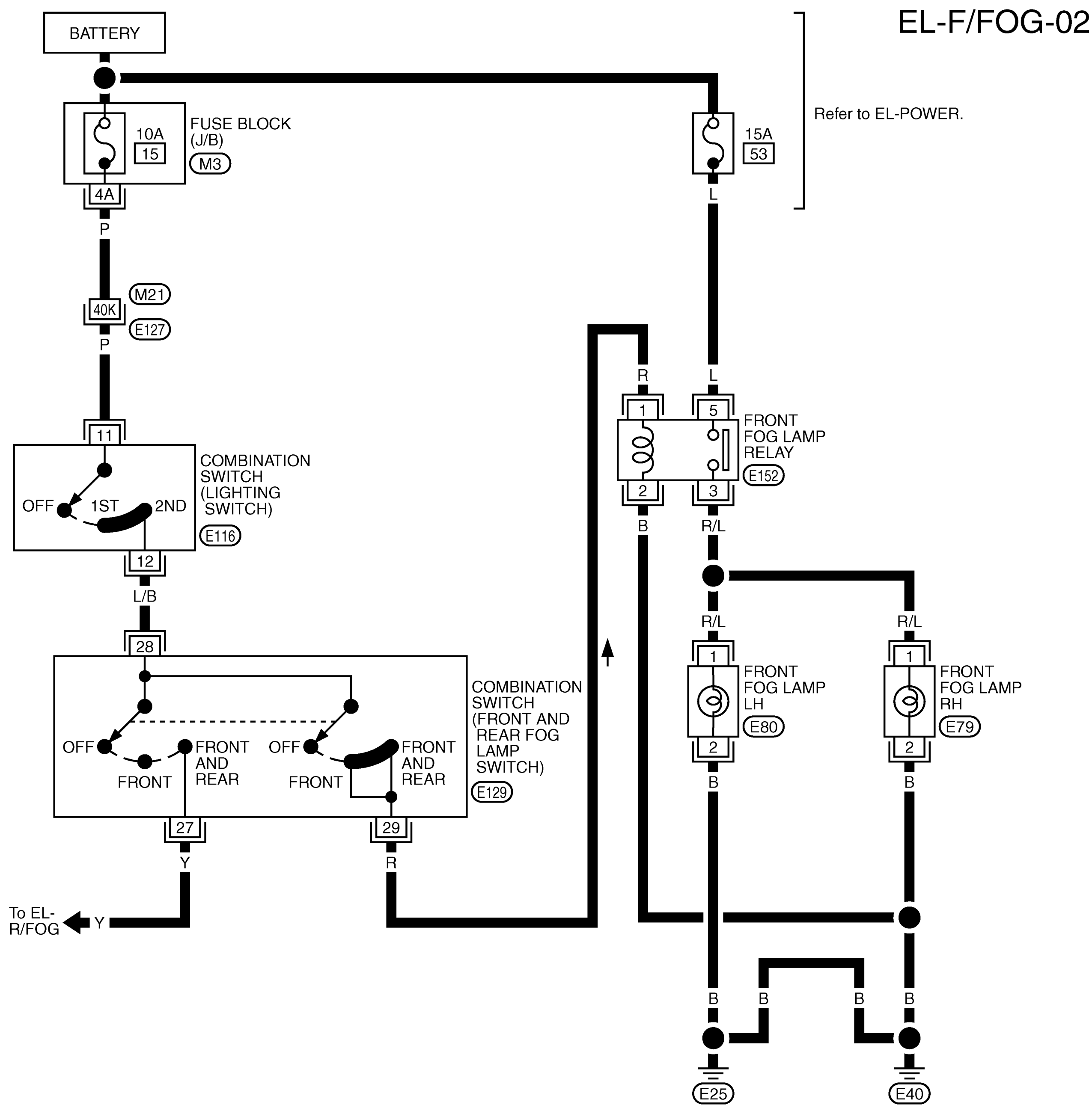
Refer to last page (Foldout page).
M21 , E127
E112

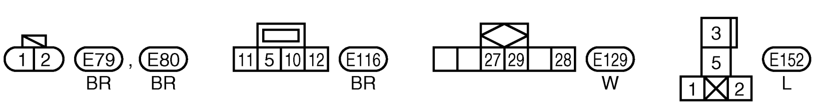
TEL516M

Wiring Diagram — F/FOG —/Except for China



Wiring Diagram — F/FOG —/For China

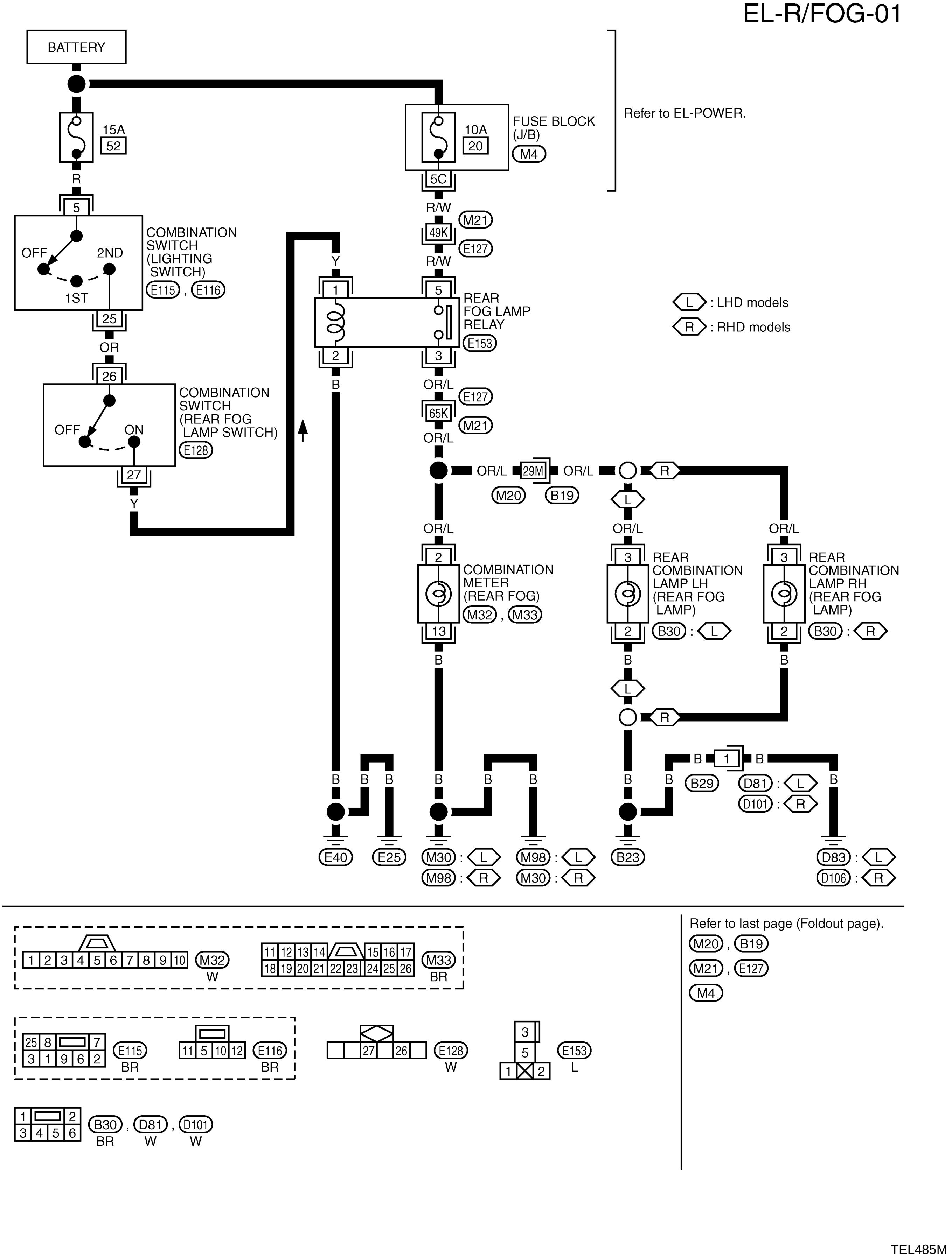




Refer to last page (Foldout page).
M21 , E127
M3

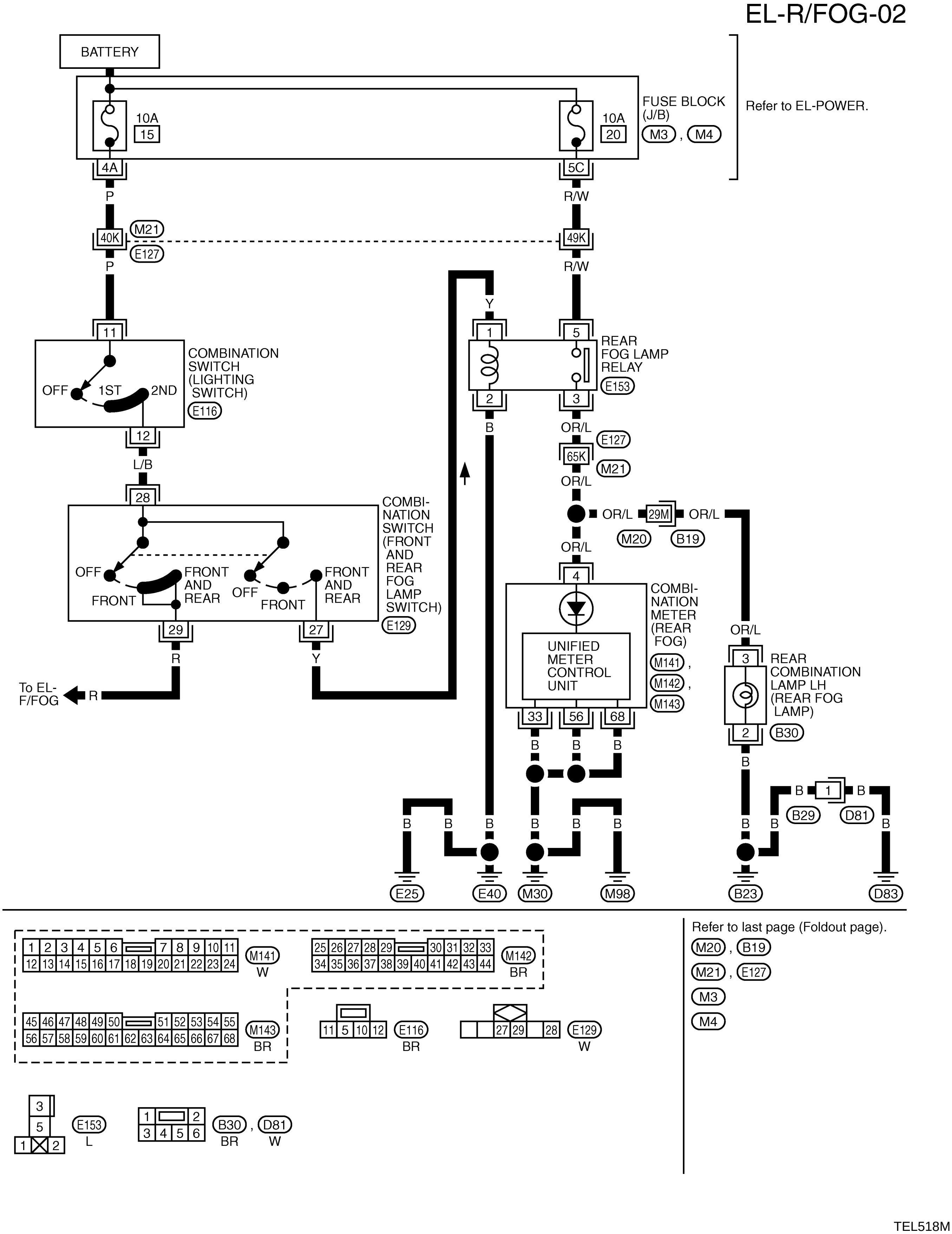
TEL517M

Wiring Diagram —R/FOG—/Except for China



Wiring Diagram —R/FOG—/For China

WITH FORNT FOG LAMP

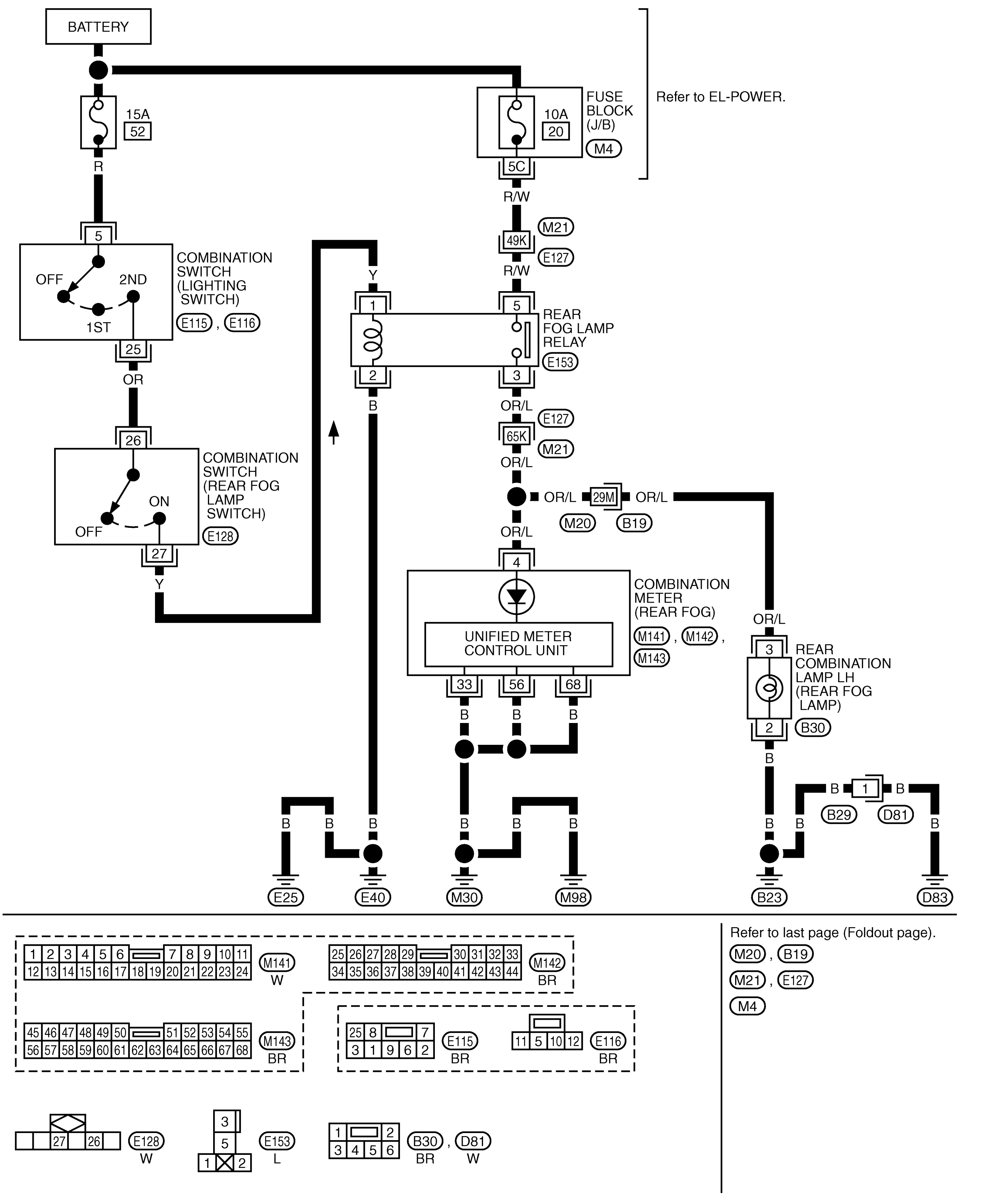


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Wiring Diagram —R/FOG—/For China (Cont'd)

WITHOUT FRONT FOG LAMP

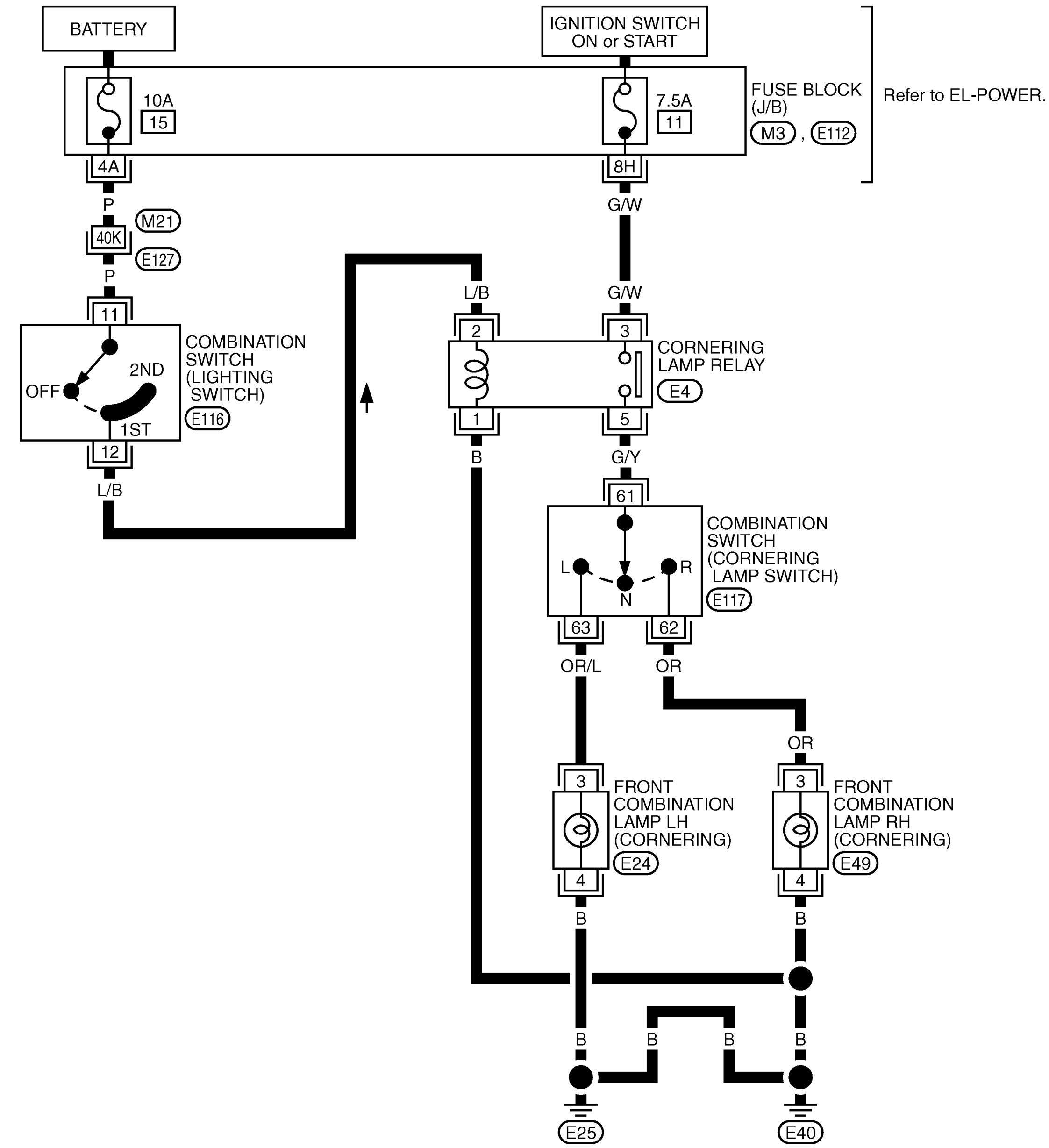
EL-R/FOG-03

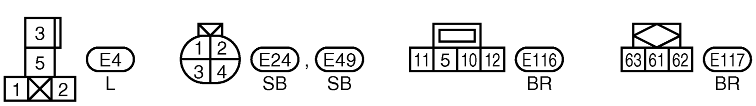


TEL519M

Wiring Diagram — CORNER —/LHD Models

EL-CORNER-01

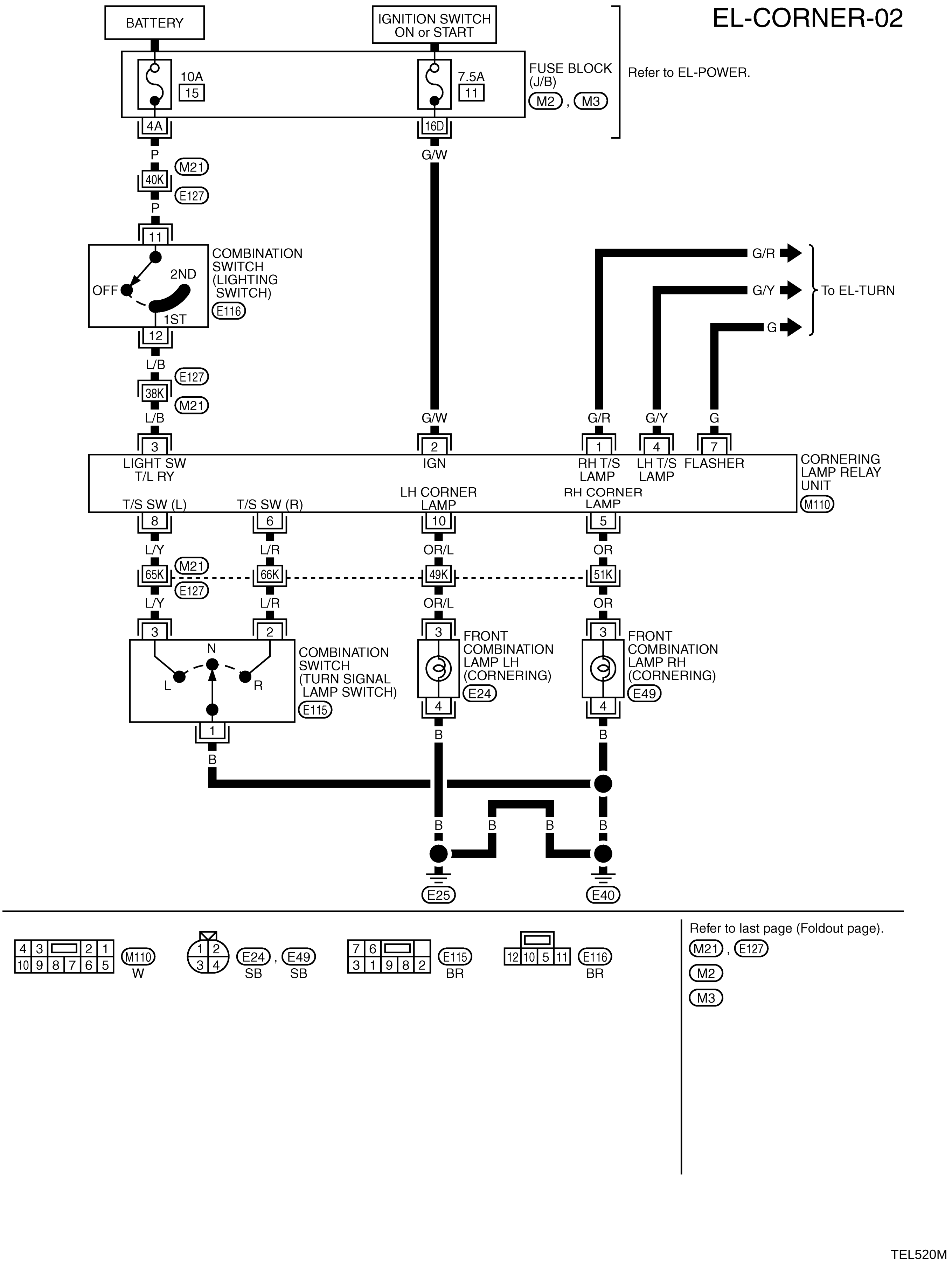




Refer to last page (Foldout page).
M21 , E127
M3
E112

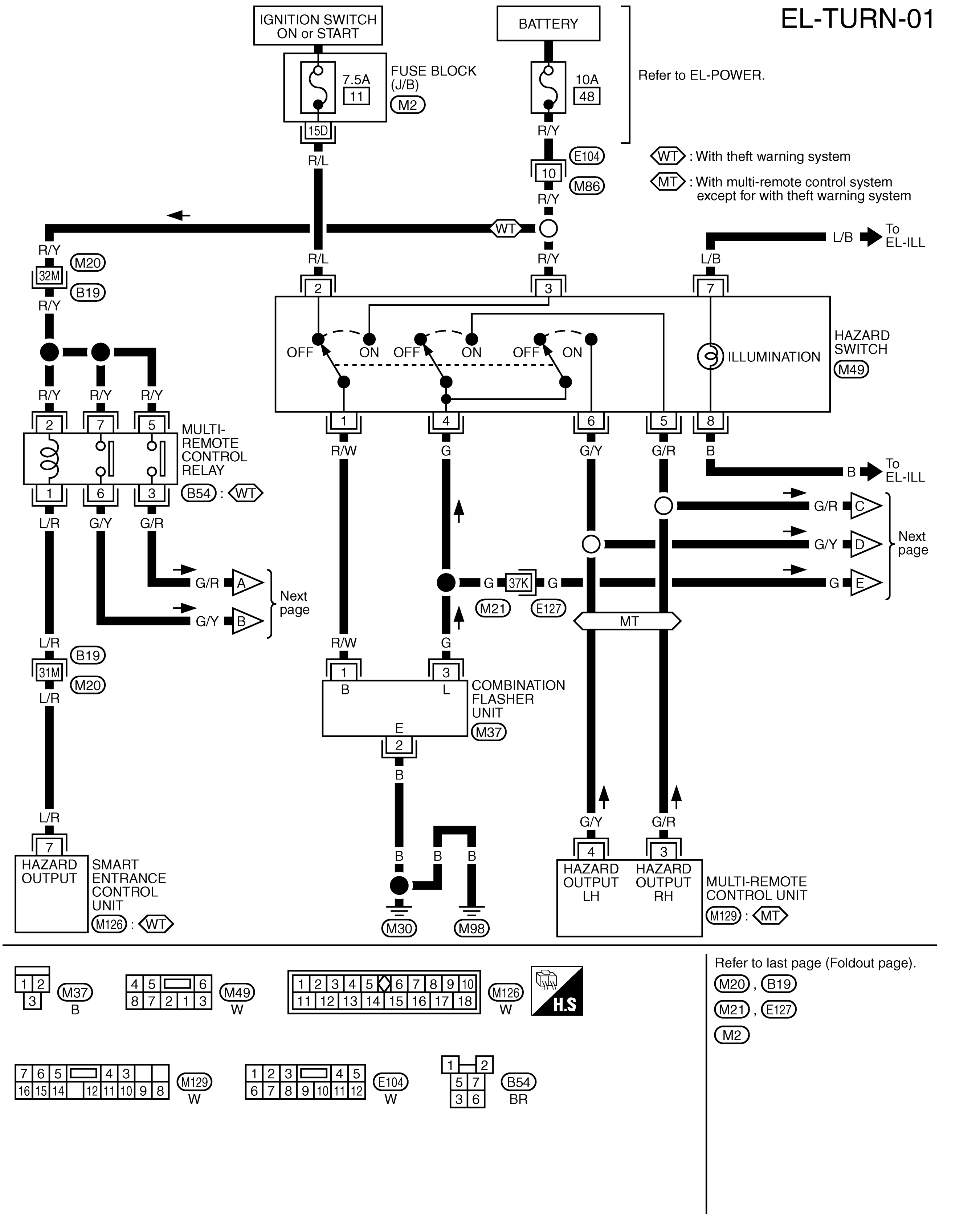
TEL398M

Wiring Diagram — CORNER —/RHD Models



Wiring Diagram — TURN —/Type A

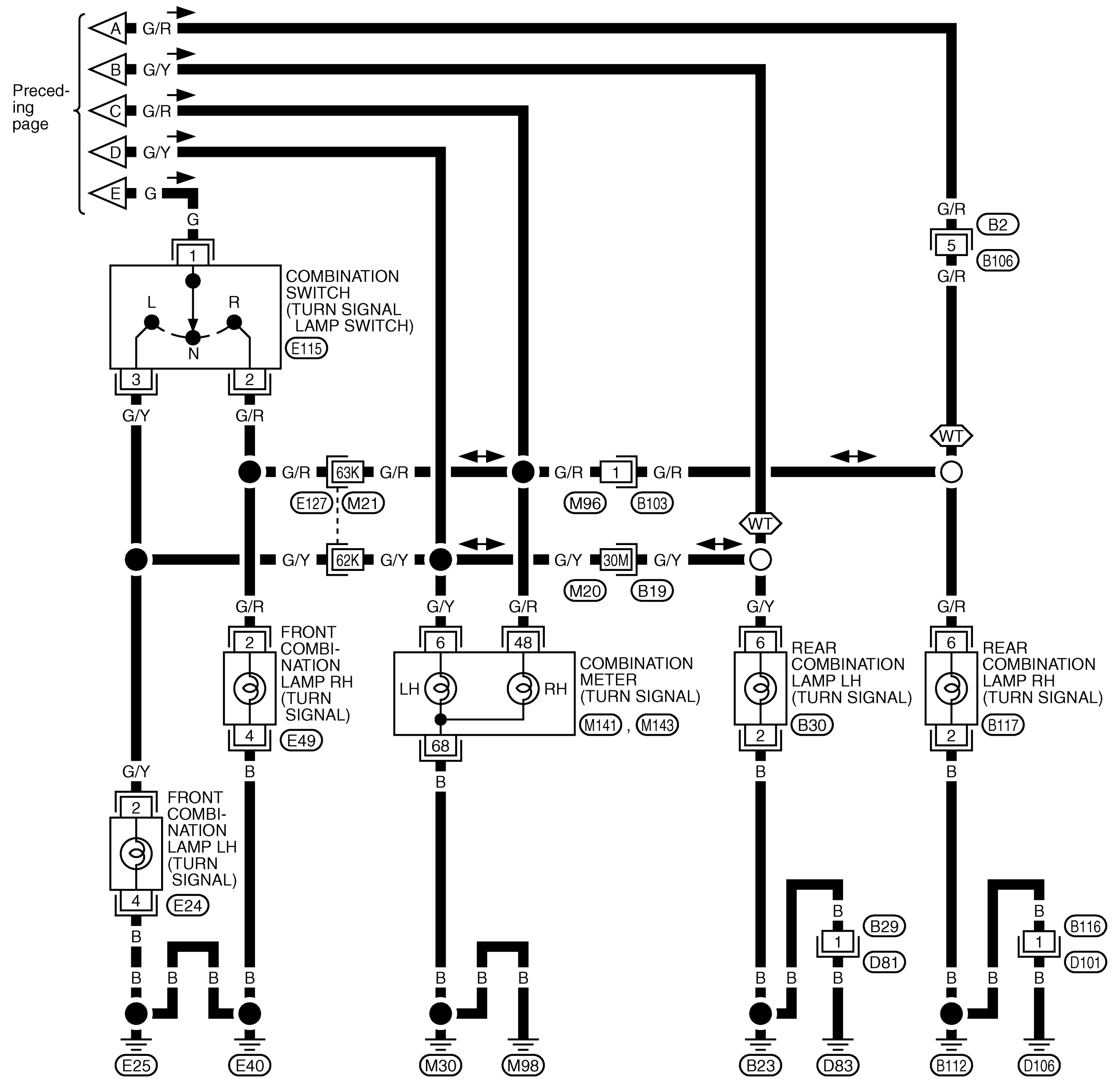
LHD MODELS EXCEPT FOR EUROPE AND CHINA
Rear combination lamps are not located on rear bumper.

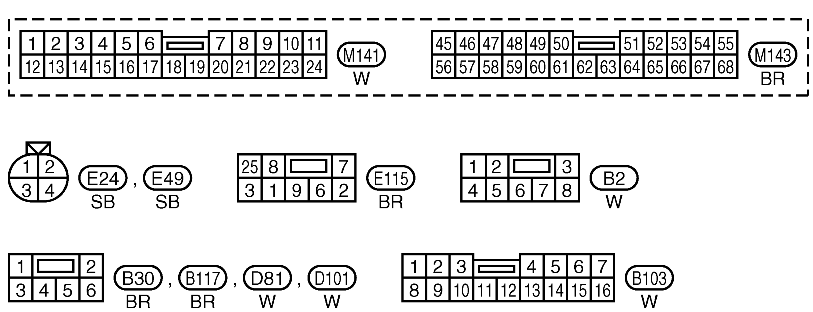


Wiring Diagram — TURN —/Type A (Cont’d)

WT : With theft warning system

EL-TURN-02



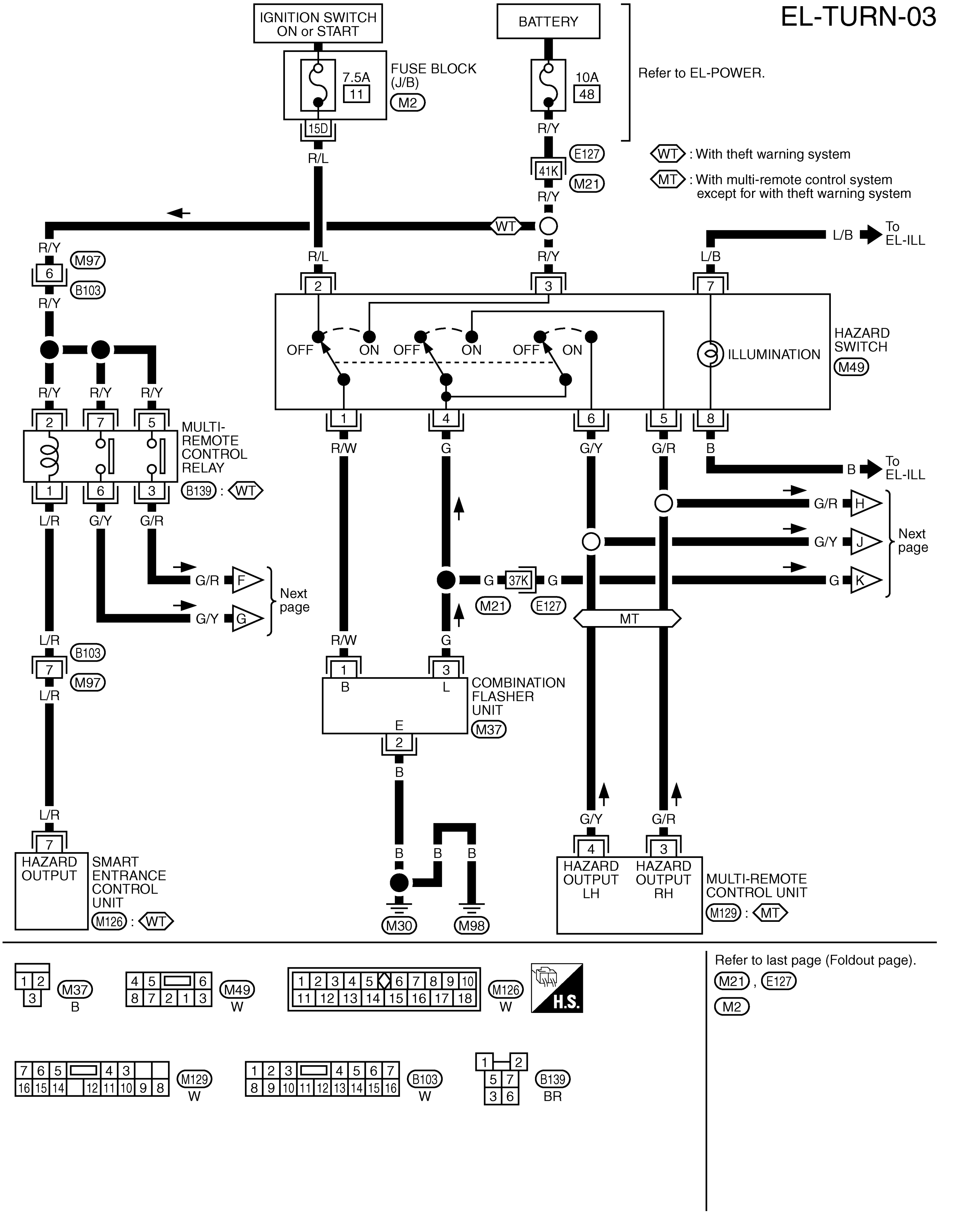


Refer to last page (Foldout page).
M20, B19
M21, E127

TEL522M

Wiring Diagram — TURN —/Type A (Cont'd)

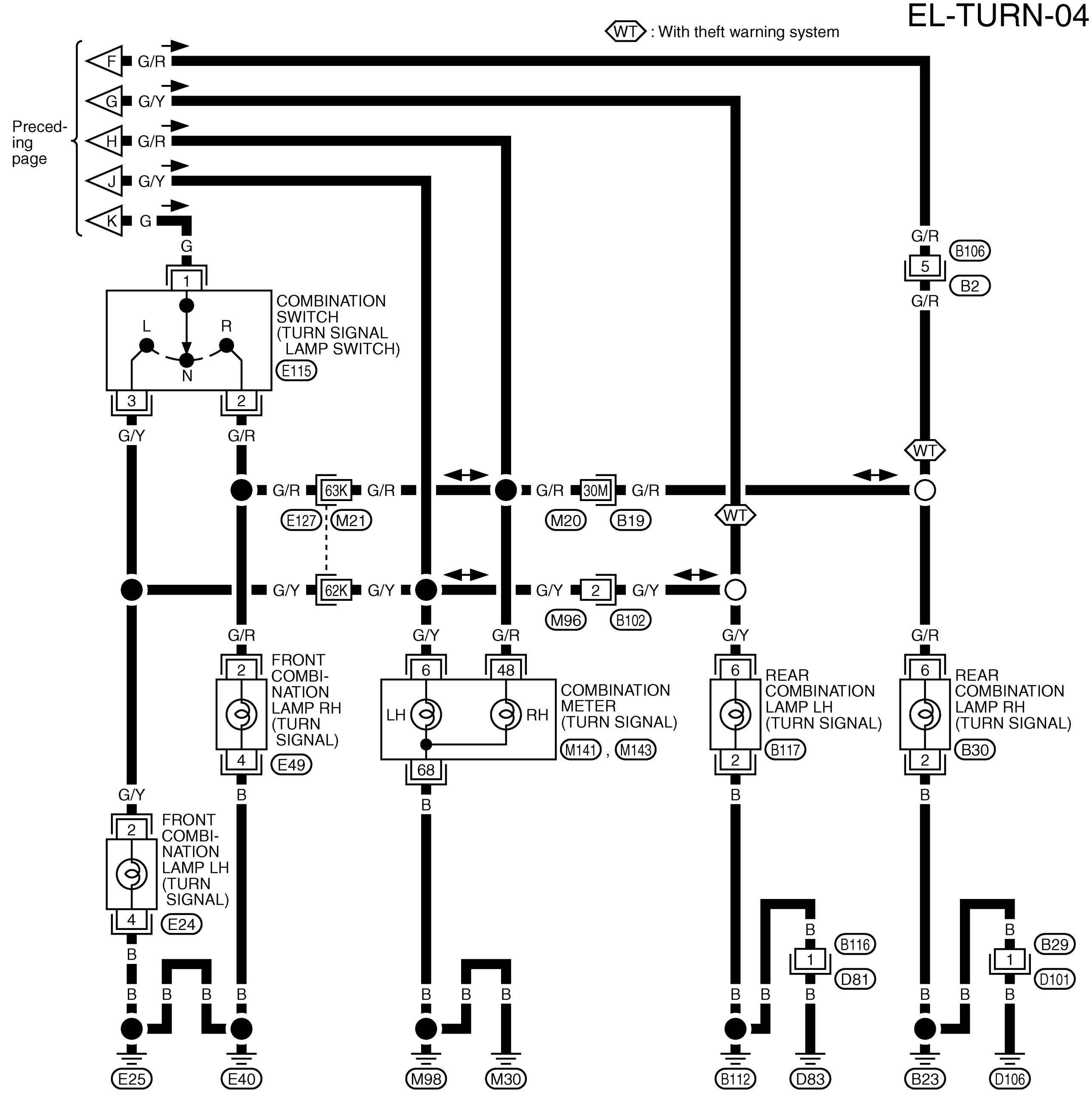
RHD MODELS EXCEPT FOR EUROPE, AUSTRALIA AND SOUTH AFRICA
Rear combination lamps are not located on rear bumper.



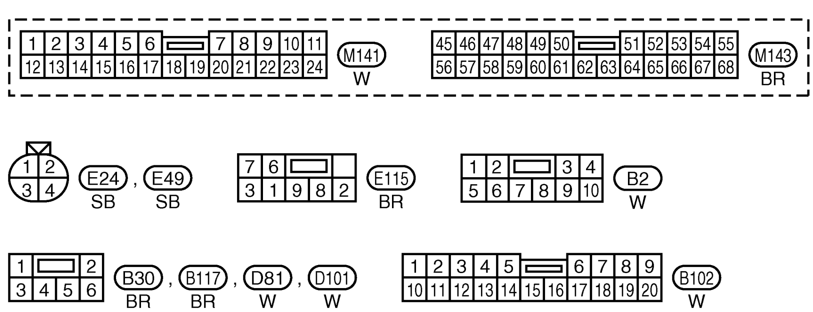
TEL523M

Wiring Diagram — TURN —/Type A (Cont'd)

EL-TURN-04



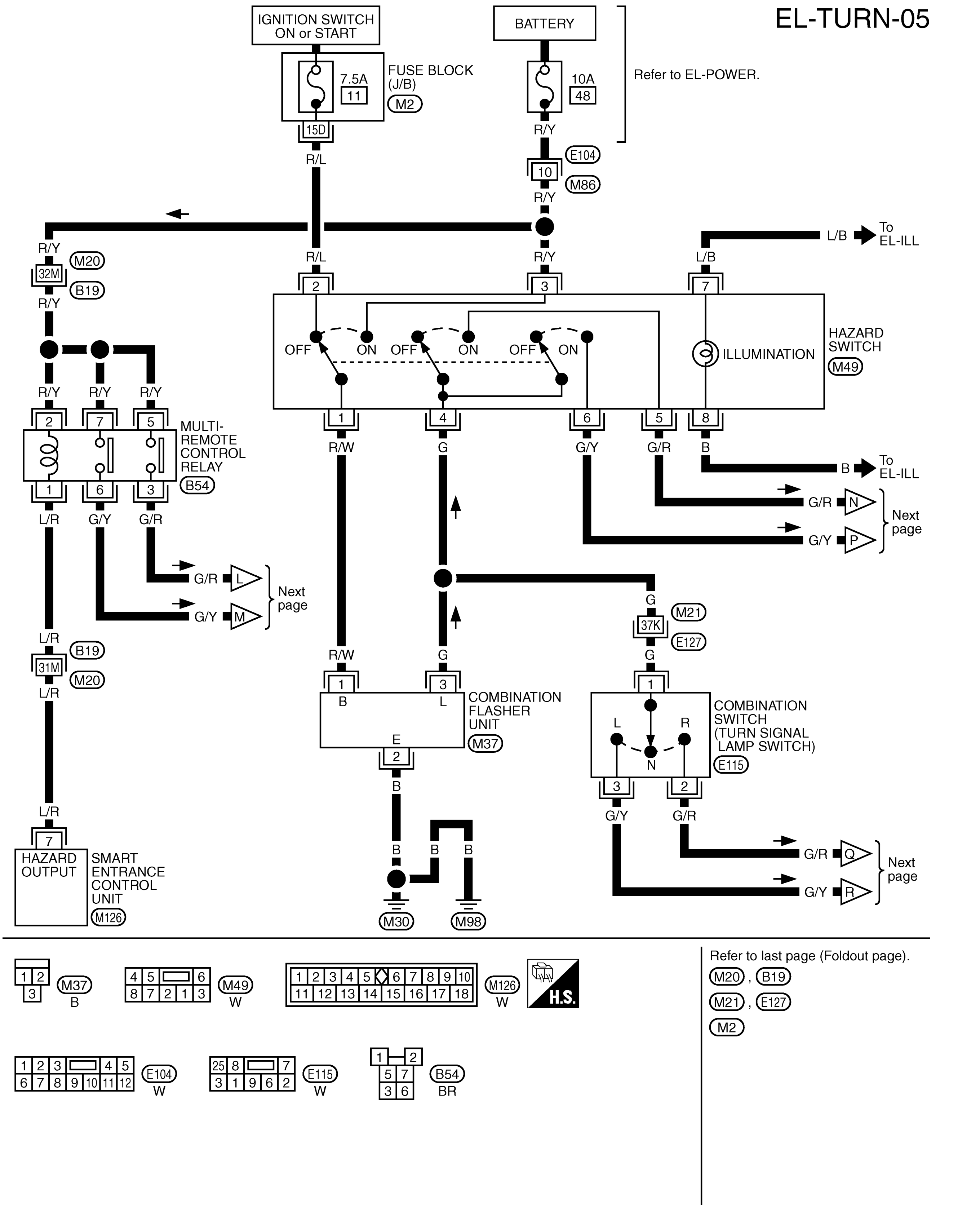
Refer to last page (Foldout page).
M20, B19
M21, E127



TEL524M

Wiring Diagram — TURN —/Type B

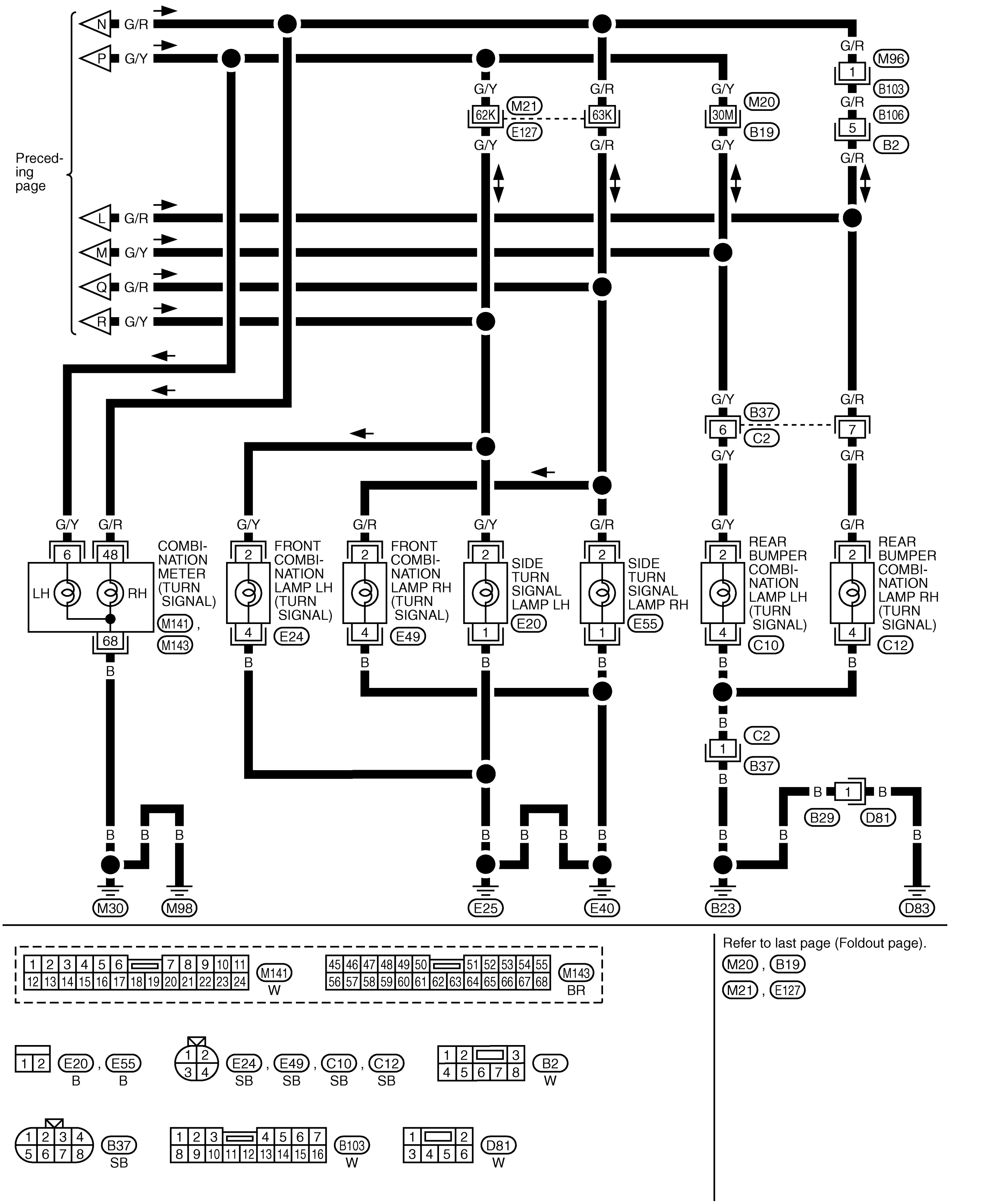
FOR CHINA
Rear combination lamps are located on rear bumper.



TEL525M

Wiring Diagram — TURN —/Type B (Cont'd)

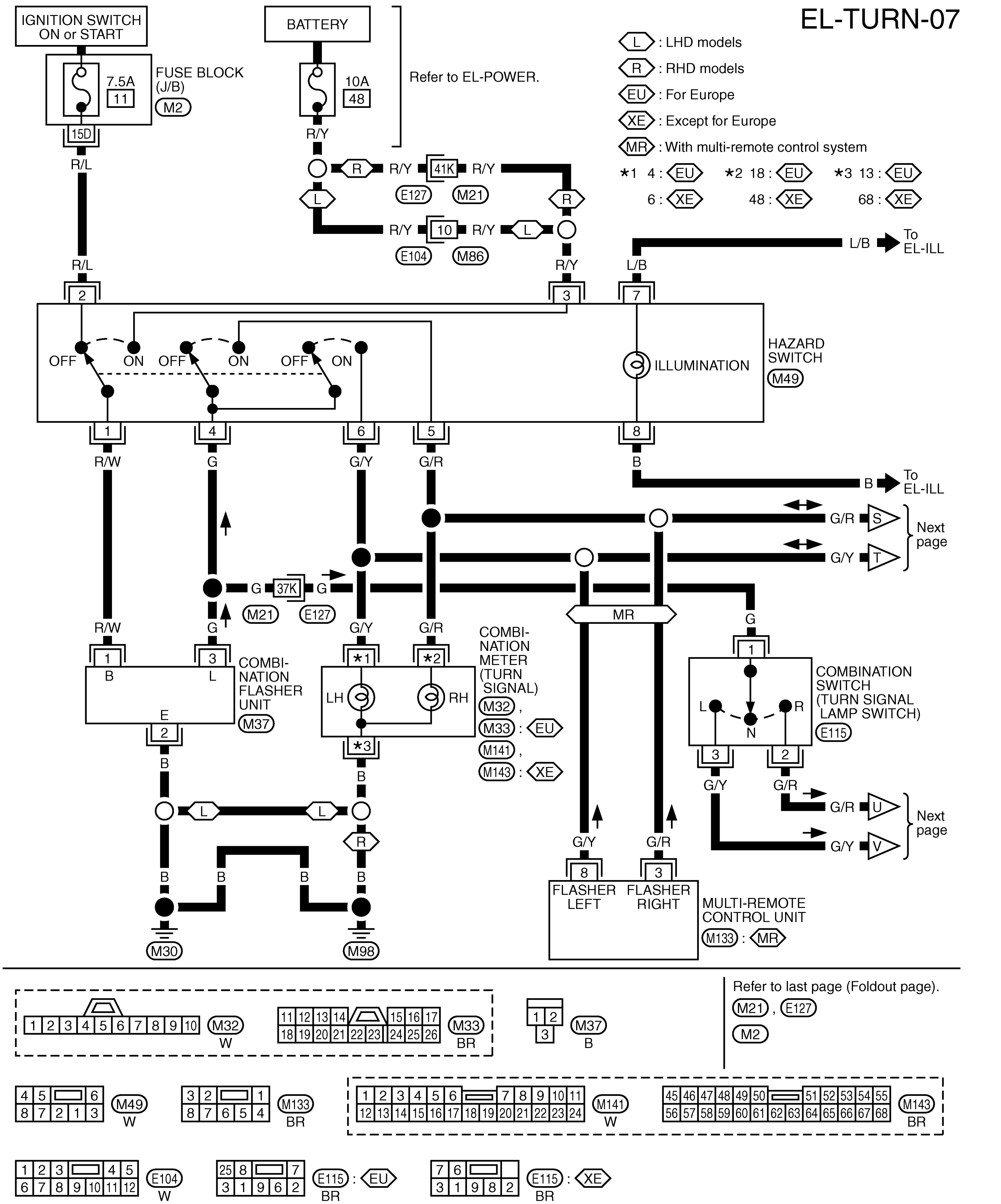
EL-TURN-06



TEL526M

Wiring Diagram — TURN —/Type C

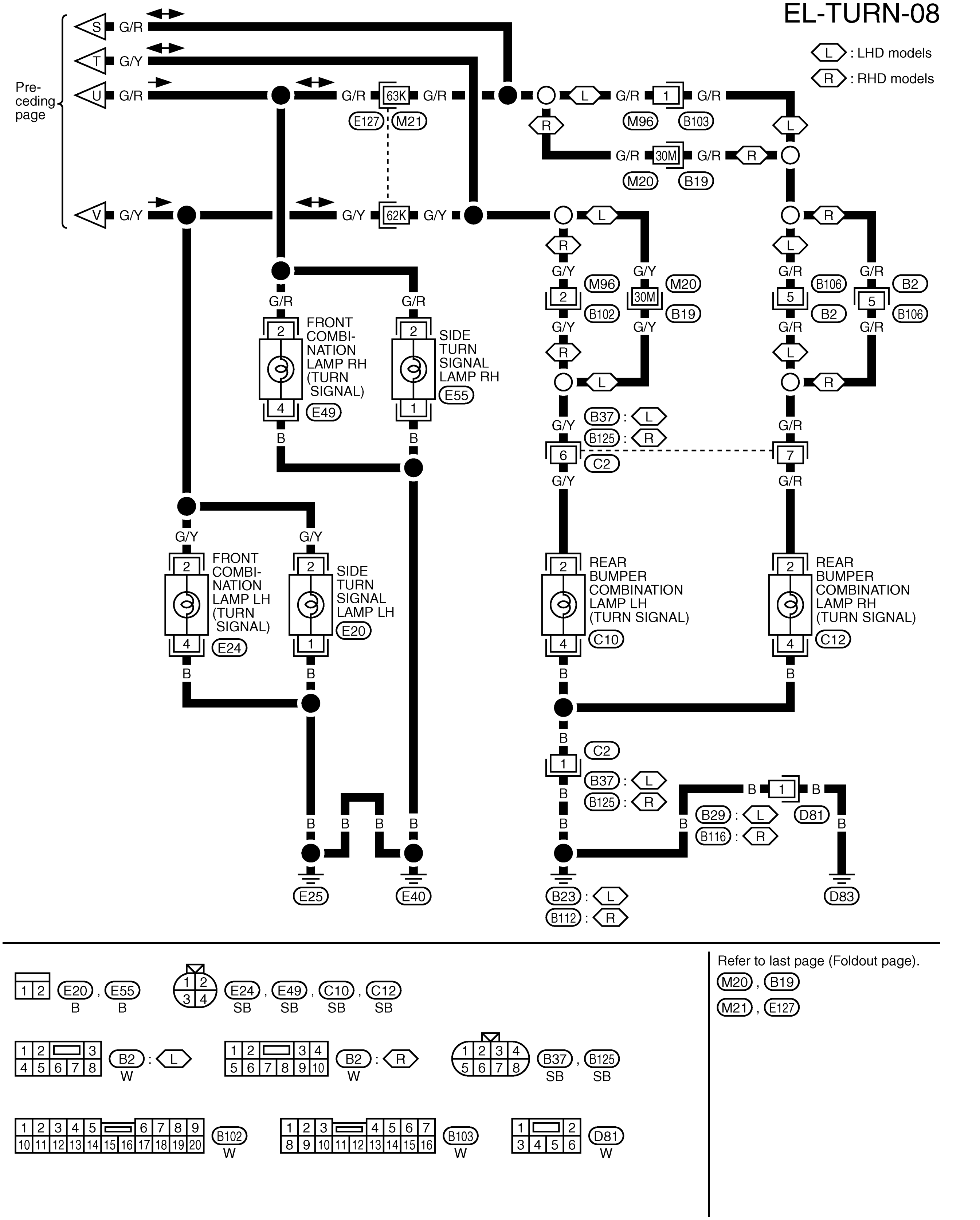
FOR EUROPE AND SOUTH AFRICA
Rear combination lamps are located on rear bumper.



TEL527M

Wiring Diagram — TURN —/Type C (Cont’d)

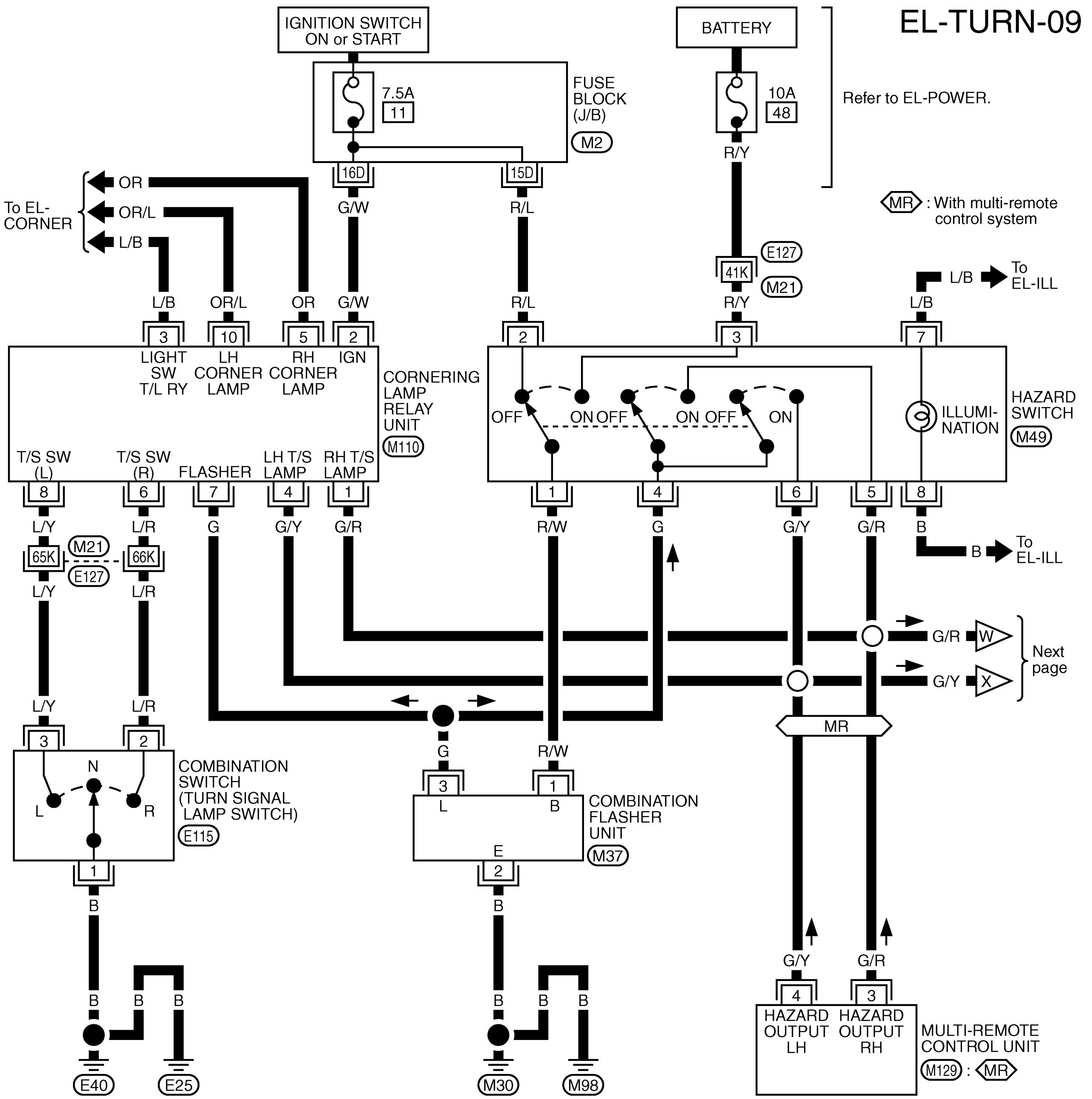
EL-TURN-08

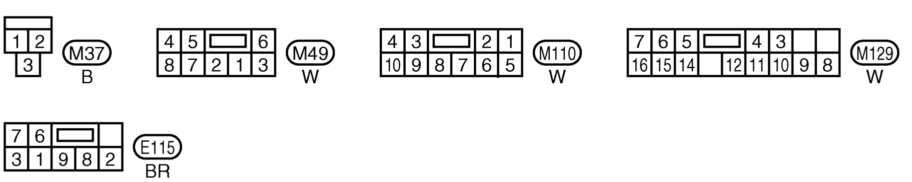


TEL528M

Wiring Diagram — TURN —/Type D

FOR AUSTRALIA
Rear combination lamps are located on rear bumper.



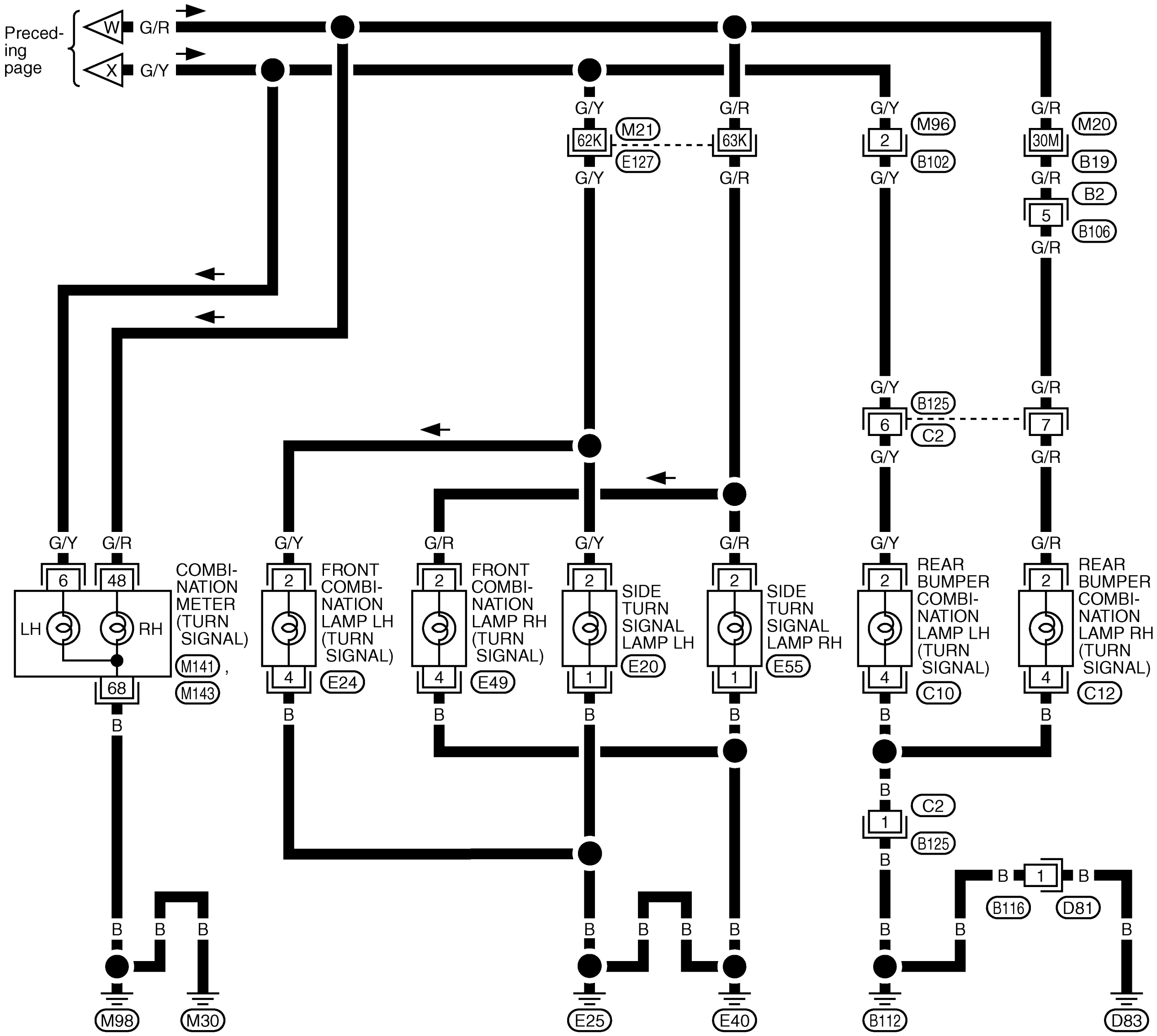


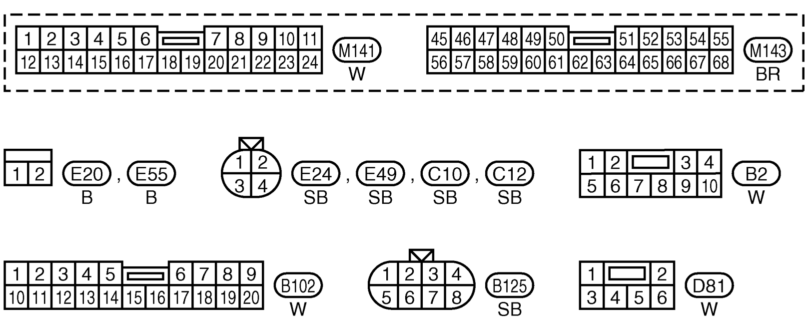
Refer to last page (Foldout page).
M21, E127
M2

TEL529M

Wiring Diagram — TURN —/Type D (Cont'd)

EL-TURN-10

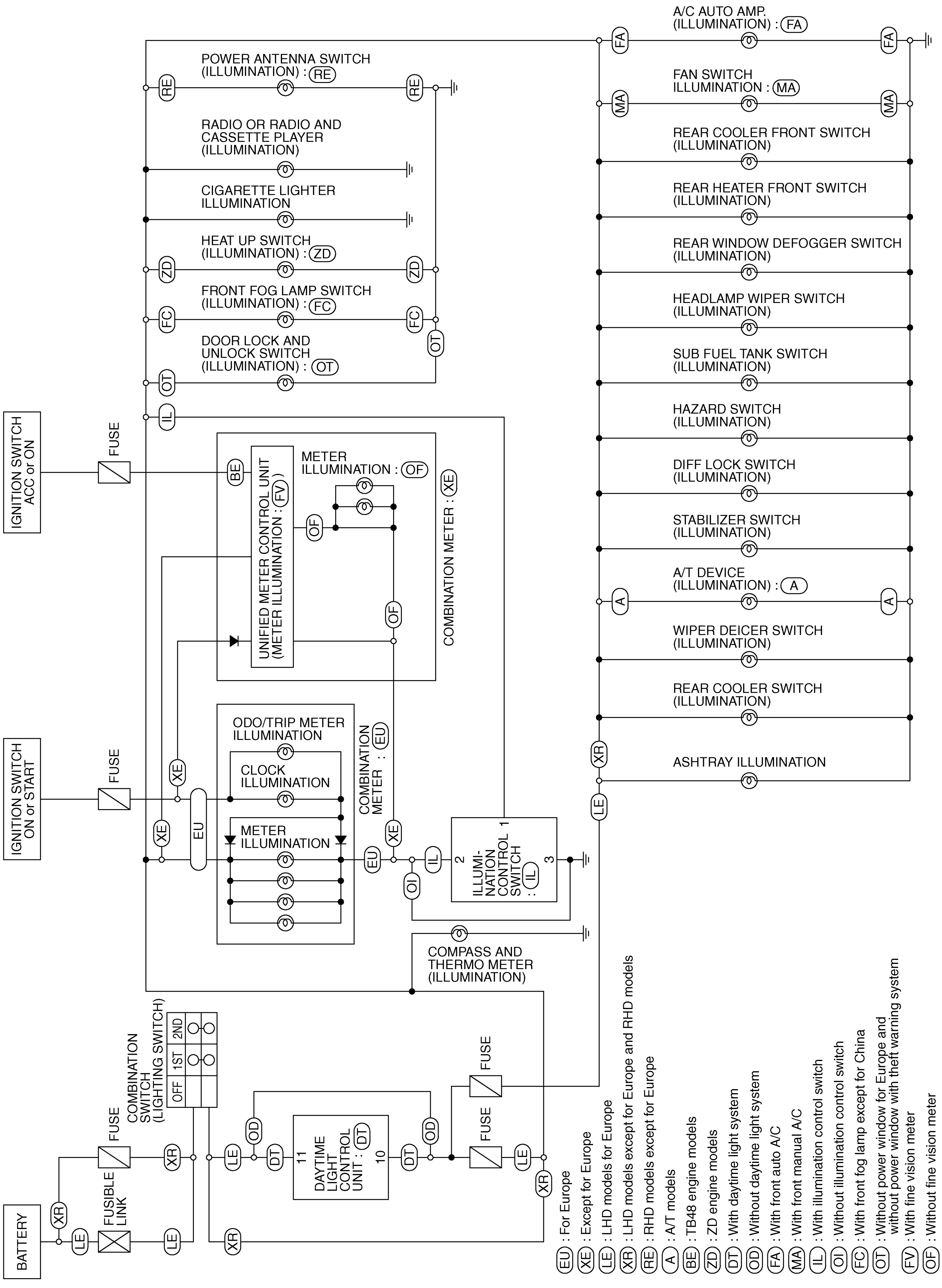




Refer to last page (Foldout page).
M20, B19
M21, E127

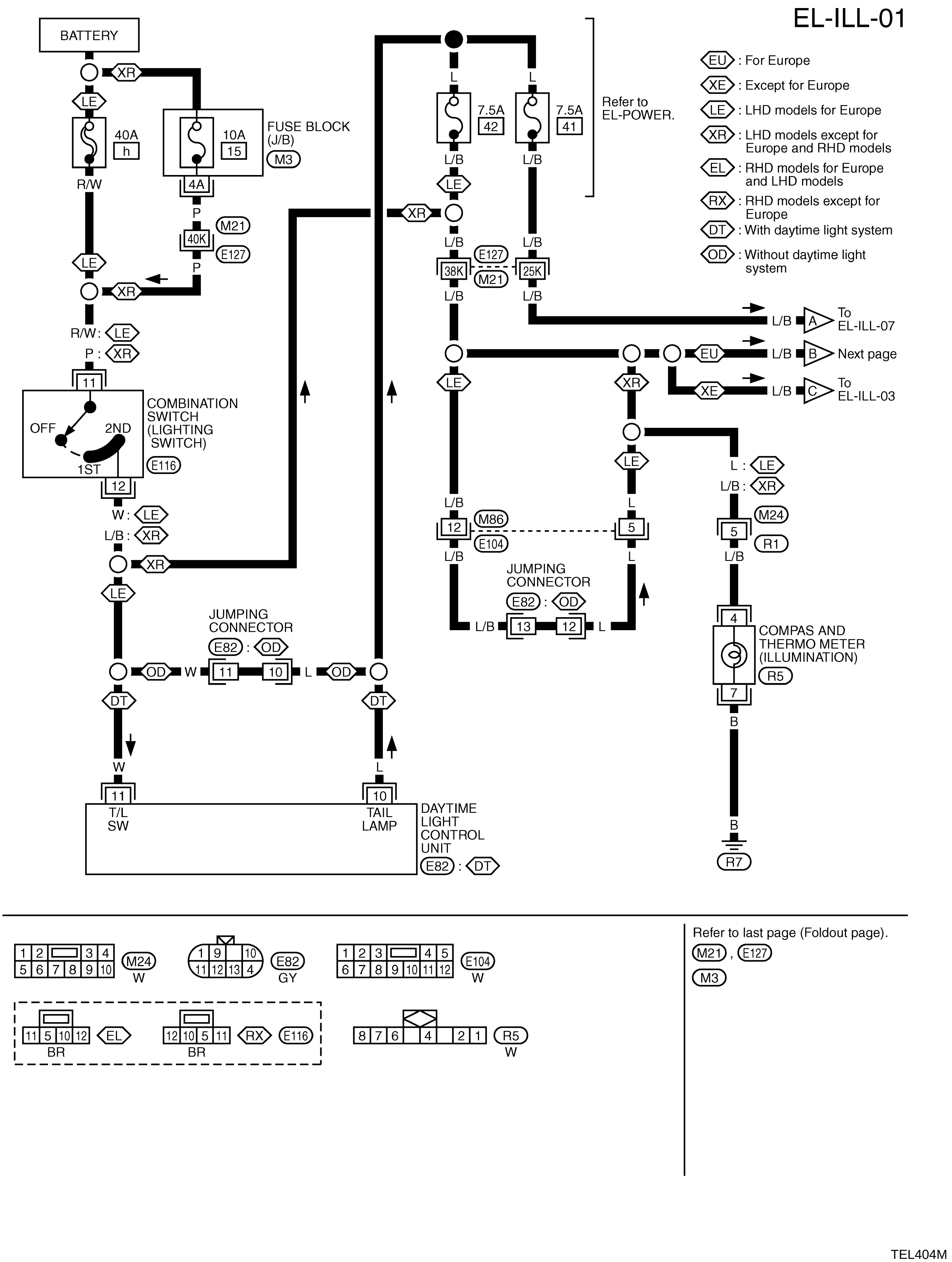
TEL530M

Schematic

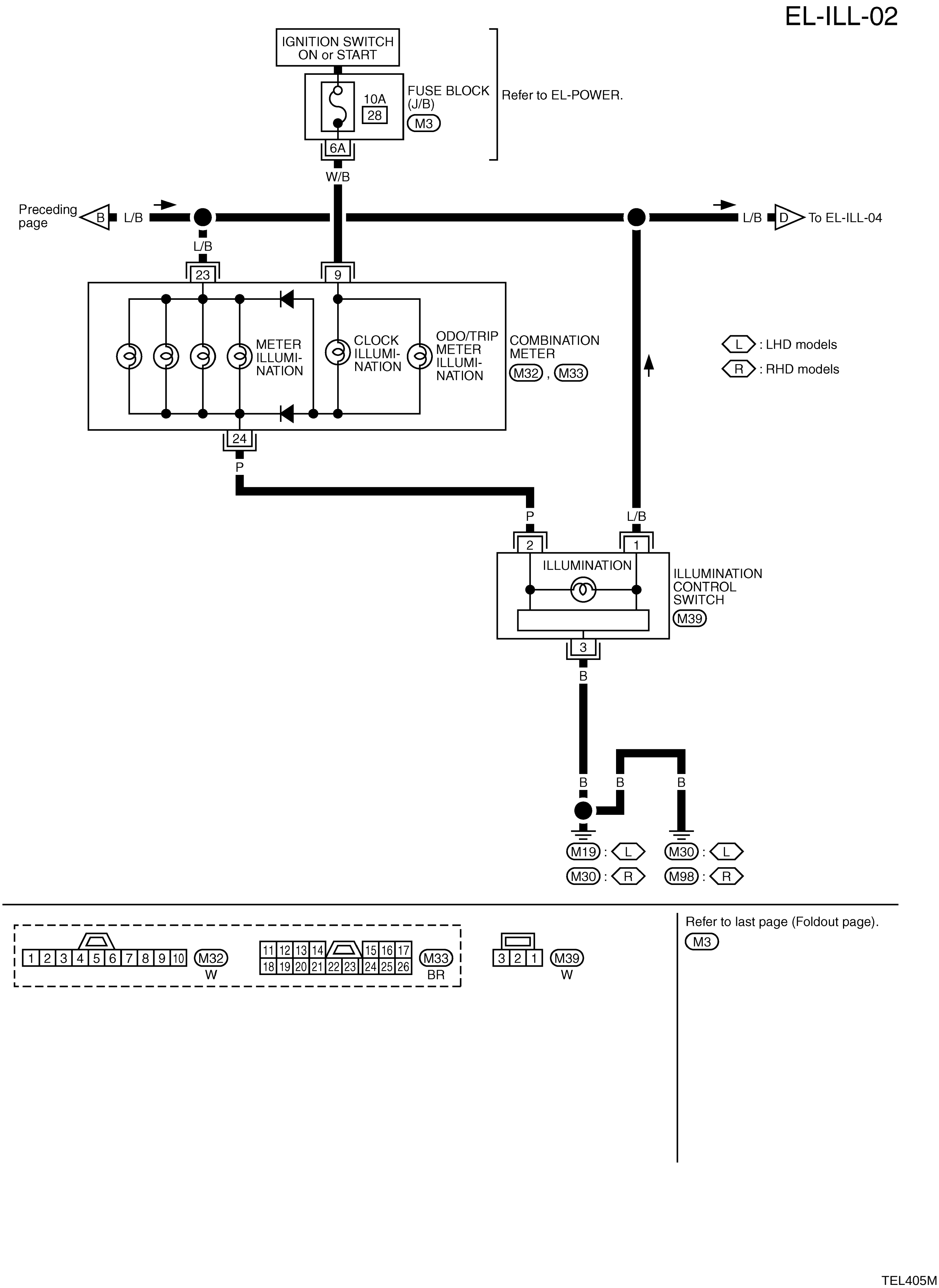


TEL531M

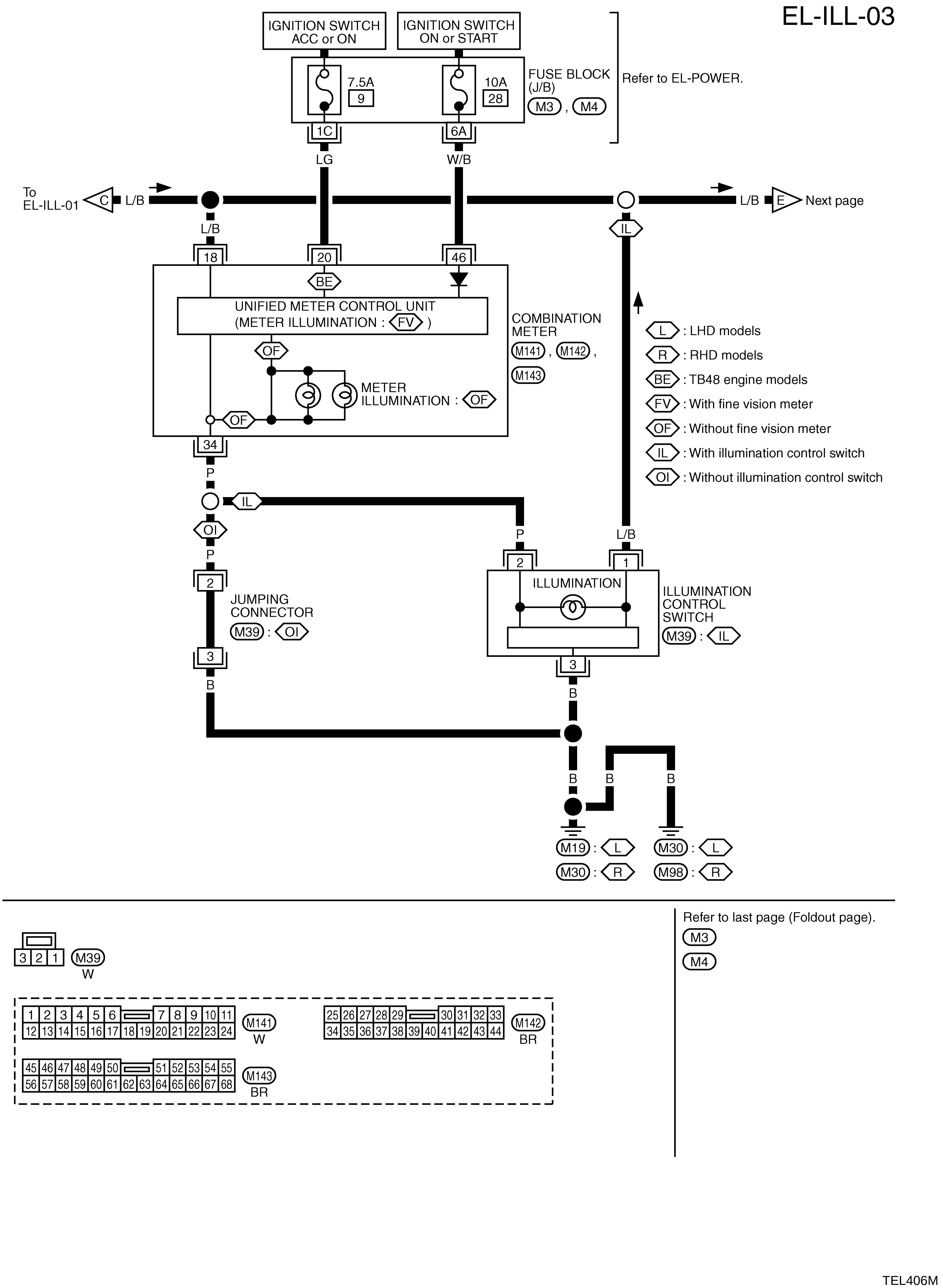
Wiring Diagram — ILL —



Wiring Diagram — ILL — (Cont'd)

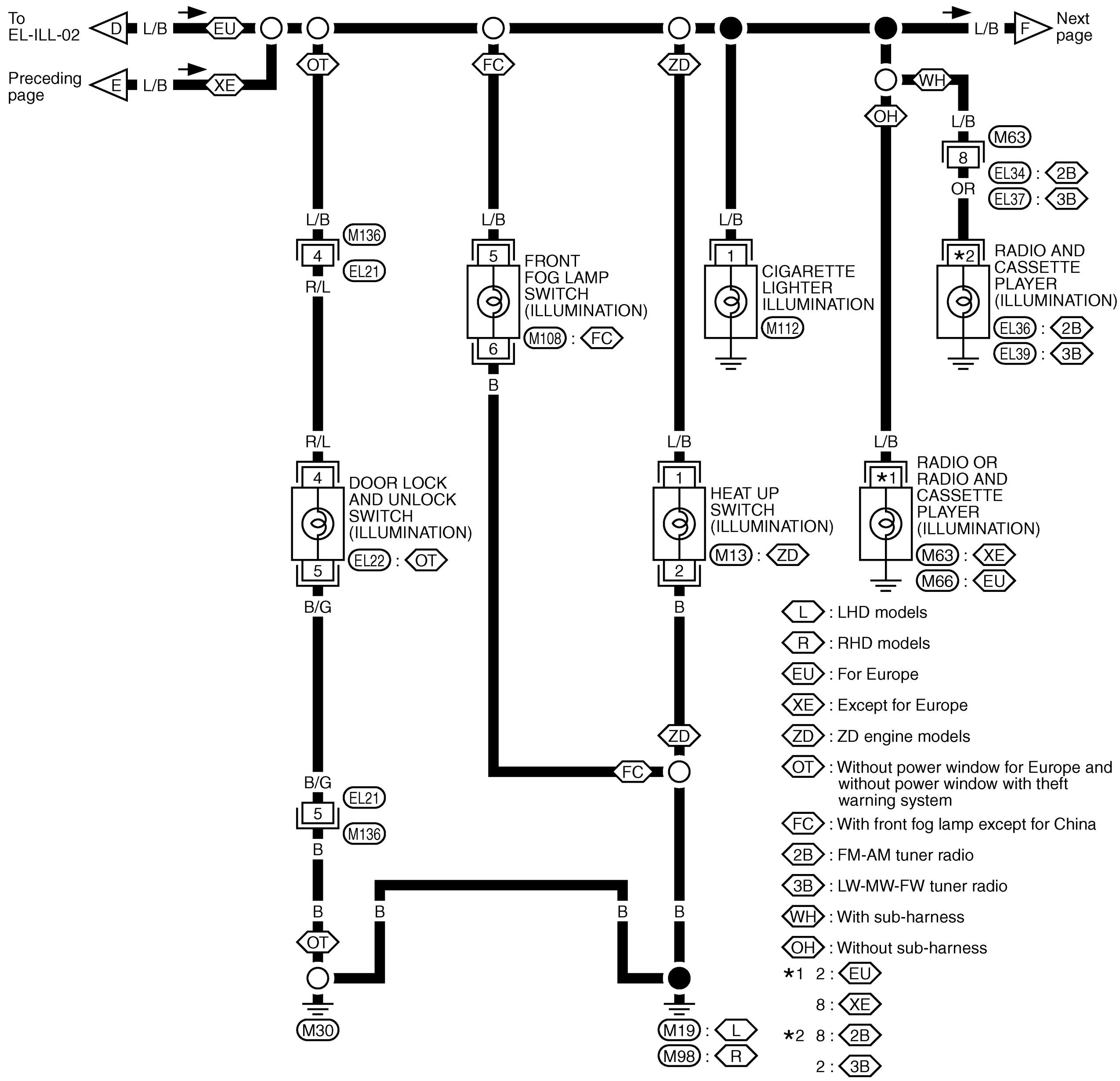


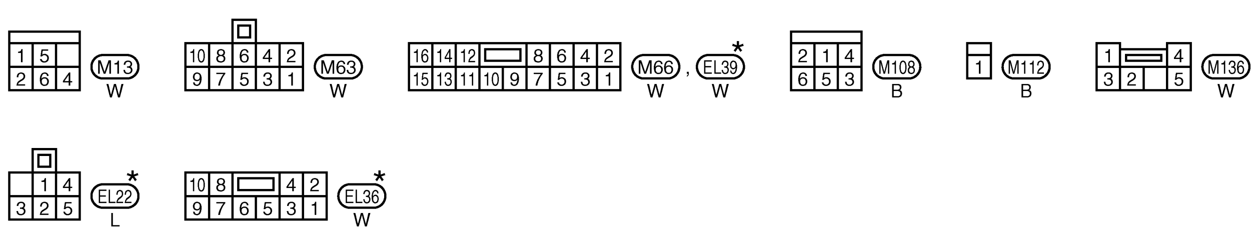
Wiring Diagram — ILL — (Cont'd)



Wiring Diagram — ILL — (Cont'd)

EL-ILL-04





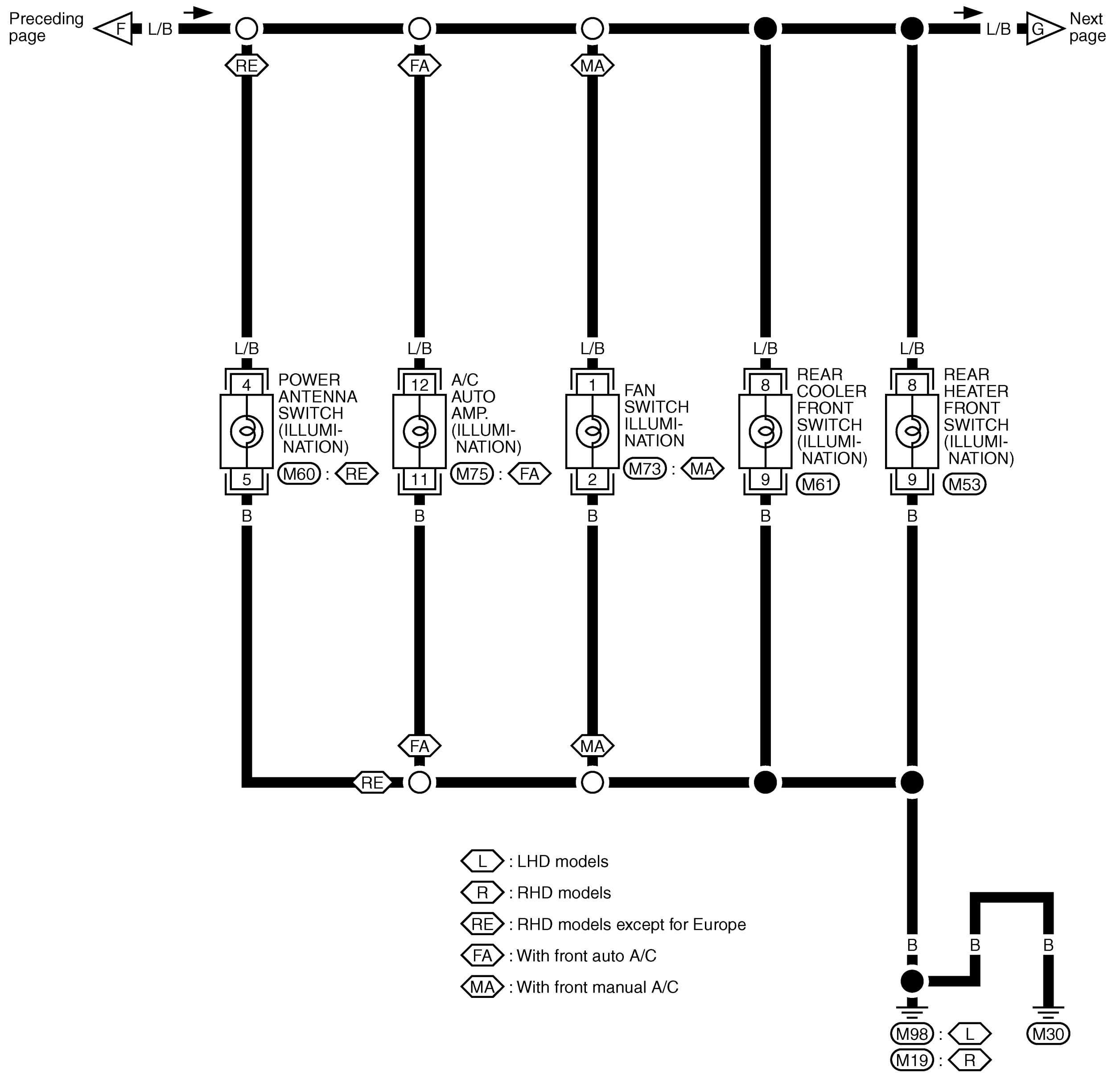
*: This connector is not shown in "HARNESS LAYOUT", EL section.

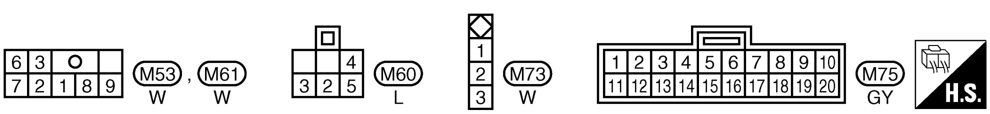
TEL532M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Wiring Diagram — ILL — (Cont'd)

EL-ILL-05

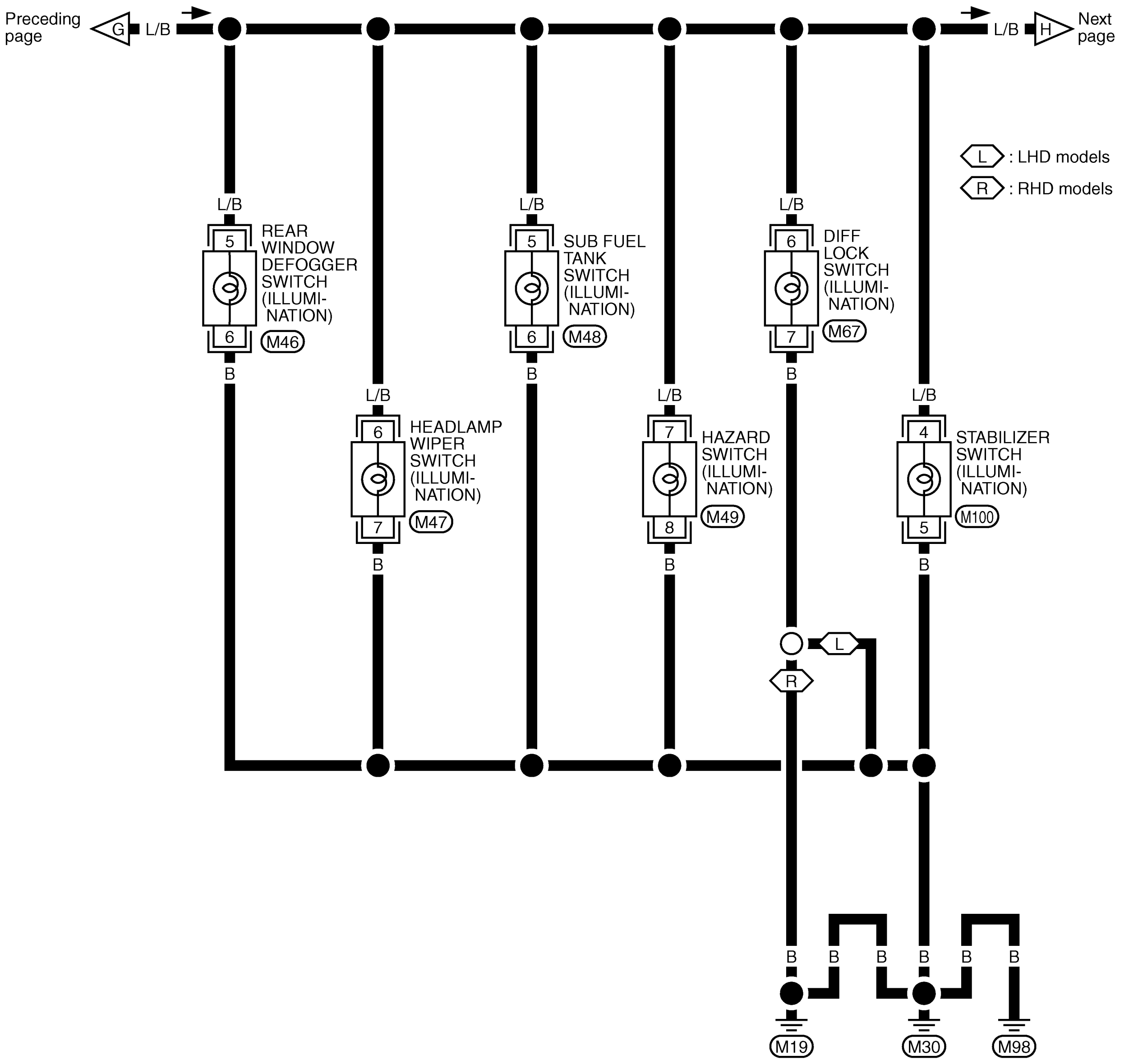


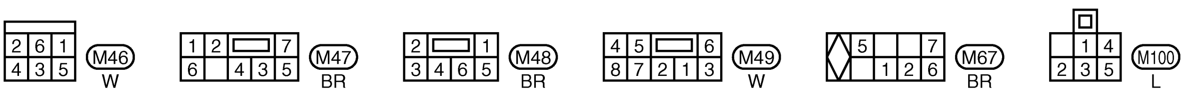


TEL533M

Wiring Diagram — ILL — (Cont'd)

EL-ILL-06

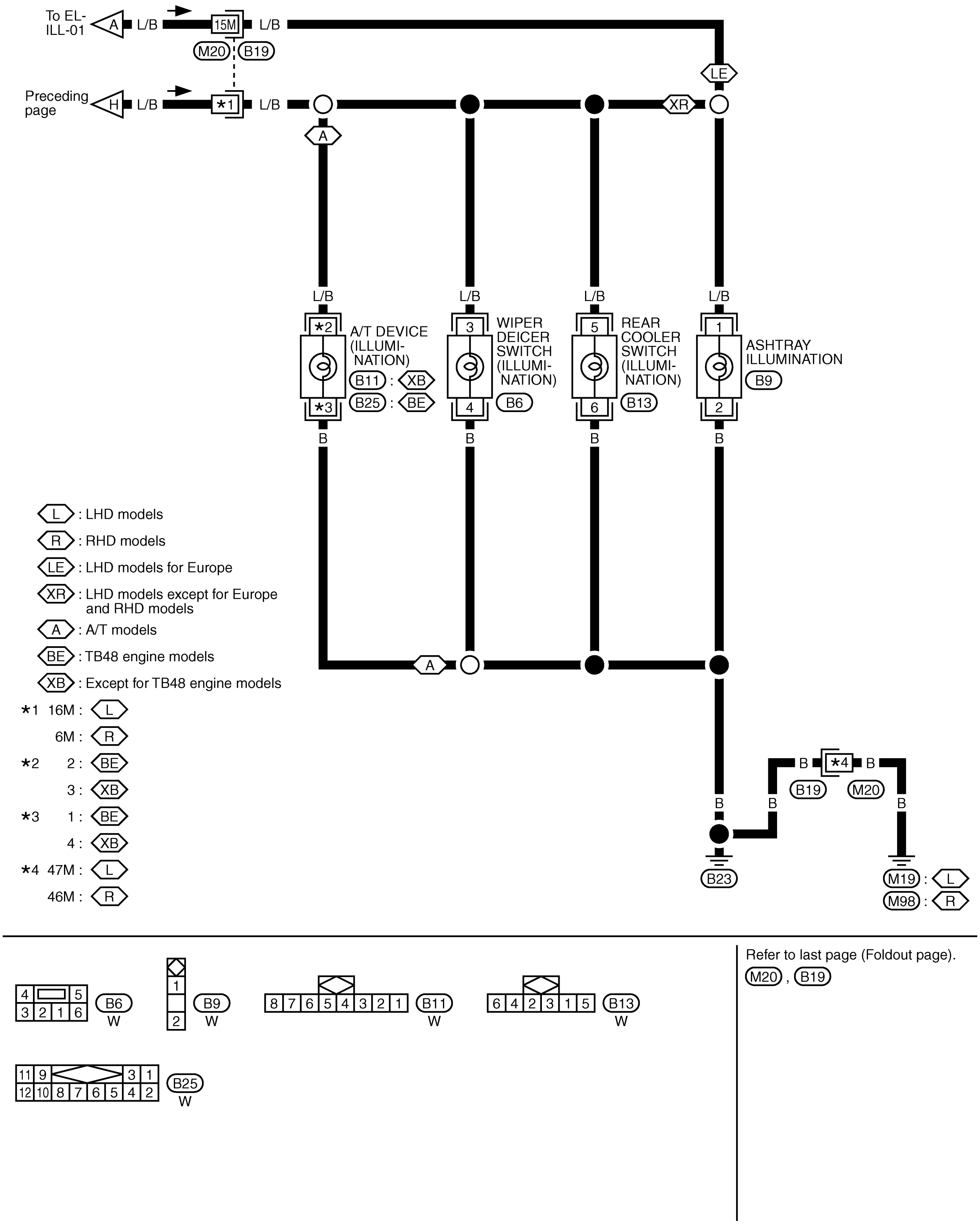




TEL624M

Wiring Diagram — ILL — (Cont'd)

EL-ILL-07



TEL534M

System Description/LHD Models Except for Europe and China

POWER SUPPLY AND GROUND

Power is supplied at all times:
- through 10A fuse [No. 20, located in the fuse block (J/B)]
- to front and rear interior room lamp terminal ①
- through 7.5A fuse [No. 24 , located in the fuse block (J/B)]
- to key switch terminal ② and
- to combination meter terminal ㊺.

When the key is removed from ignition key cylinder, power is interrupted:
- through key switch terminal ①
- to combination meter terminal ⑲.

With the ignition key switch in the ON or START position, power is supplied:
- through 10A fuse [No. 28 , located in the fuse block (J/B)]
- to combination meter terminal ㊻.

Ground is supplied:
- to combination meter terminal ㉝, ㊱, ㊳
- through body grounds terminals M30 and M98.

When the front driver side door is opened, ground is supplied:
- through body grounds M19 and B23
- to front door switch (driver side) terminal ③
- from front door switch (driver side) terminal ①
- to combination meter terminal ⑰.

When any other door is opened, ground is supplied to combination meter terminal ⑦ in the same manner as the driver door switch.

When the front driver side door is unlocked, the combination meter receives a ground signal:
- through body grounds terminals M19 and M30
- to front door lock actuator (driver side) (door unlock sensor) terminal ④
- from front door lock actuator (driver side) (door unlock sensor) terminal ②
- to combination meter terminal ㉑.

When a signal, or combination of signals is received by the combination meter, ground is supplied:
- through combination meter terminal ㉜
- to front interior room lamp terminal ②.

With power and ground supplied, the front interior room lamp illuminates.

INTERIOR ROOM LAMP TIMER OPERATION

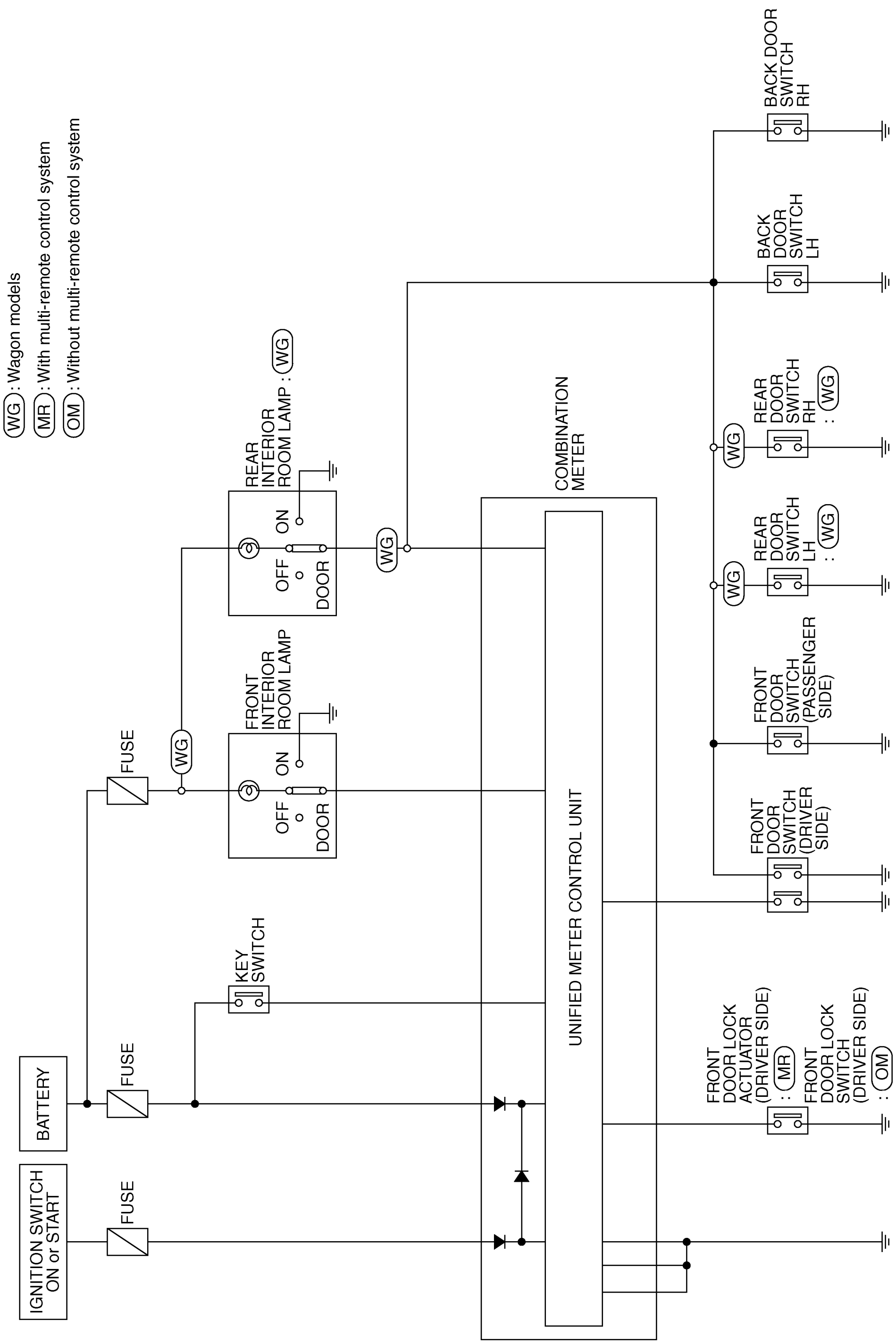
When front interior room lamp switch is in the “DOOR” position, combination meter (unified meter control unit) keeps the front interior room lamp illuminated for about 20 seconds when:
- unlock signal is supplied from driver’s door unlock sensor while all doors are closed and key is out of ignition key cylinder
- unlock signal is supplied from multi-remote controller while all doors are closed and driver’s door is locked
- key is removed from ignition key cylinder while all doors are closed
- driver’s door is opened and then closed while key is out of the ignition key cylinder. (However, if the driver’s door is closed with the key inserted in the ignition key cylinder after the driver’s door is opened with the key removed, the timer is operated.)

The timer is canceled when:
- driver’s door is locked,
- driver’s door is opened, or
- ignition switch is turned ON.

ON-OFF CONTROL

When the driver side door, front passenger door, rear LH or RH door, back door LH or RH is opened, the interior room lamp turns on while the interior room lamp switch is in the “DOOR” position.

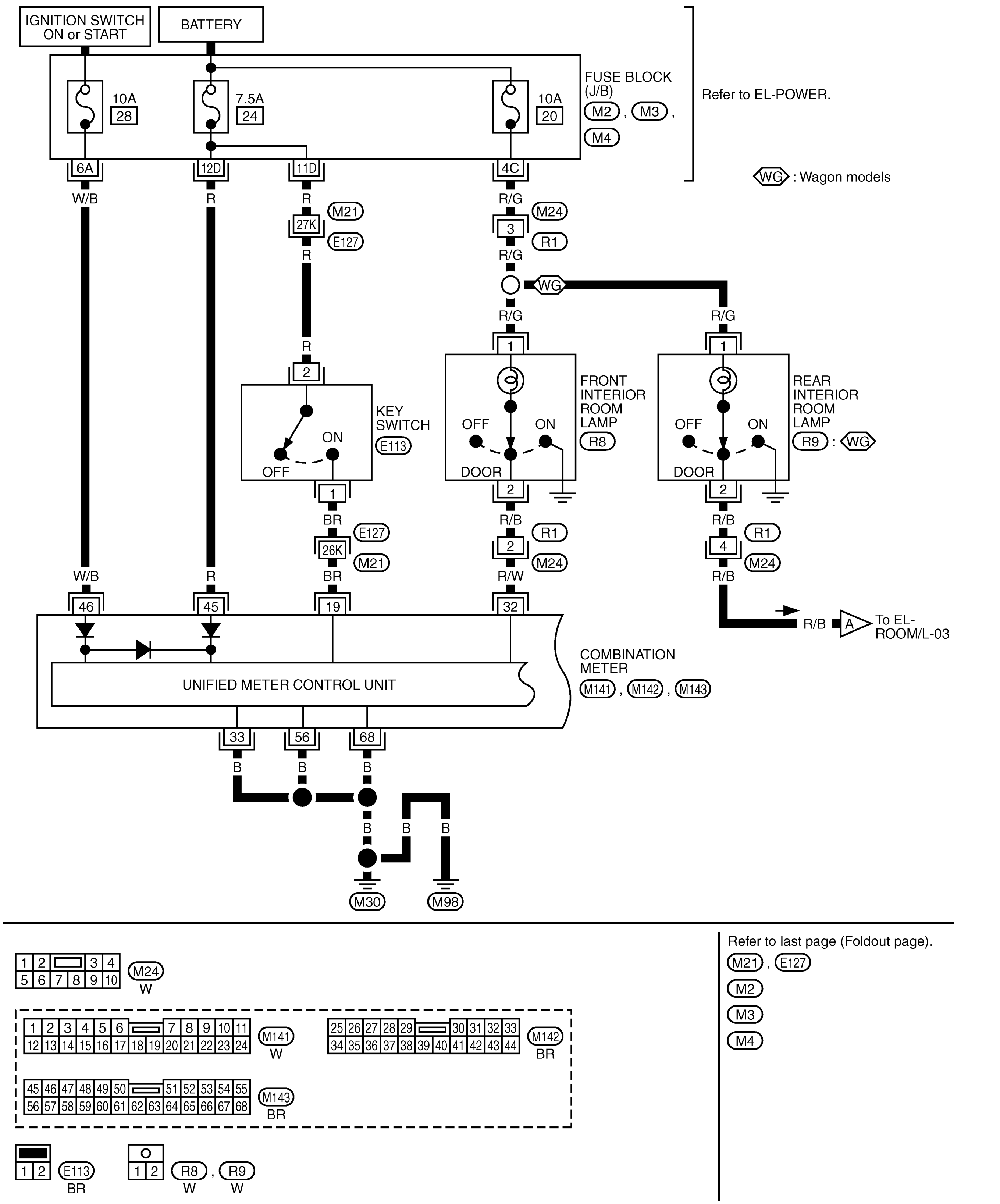
Schematic/LHD Models Except for Europe and China



TEL411M

Wiring Diagram — ROOM/L —/LHD Models Except for Europe and China

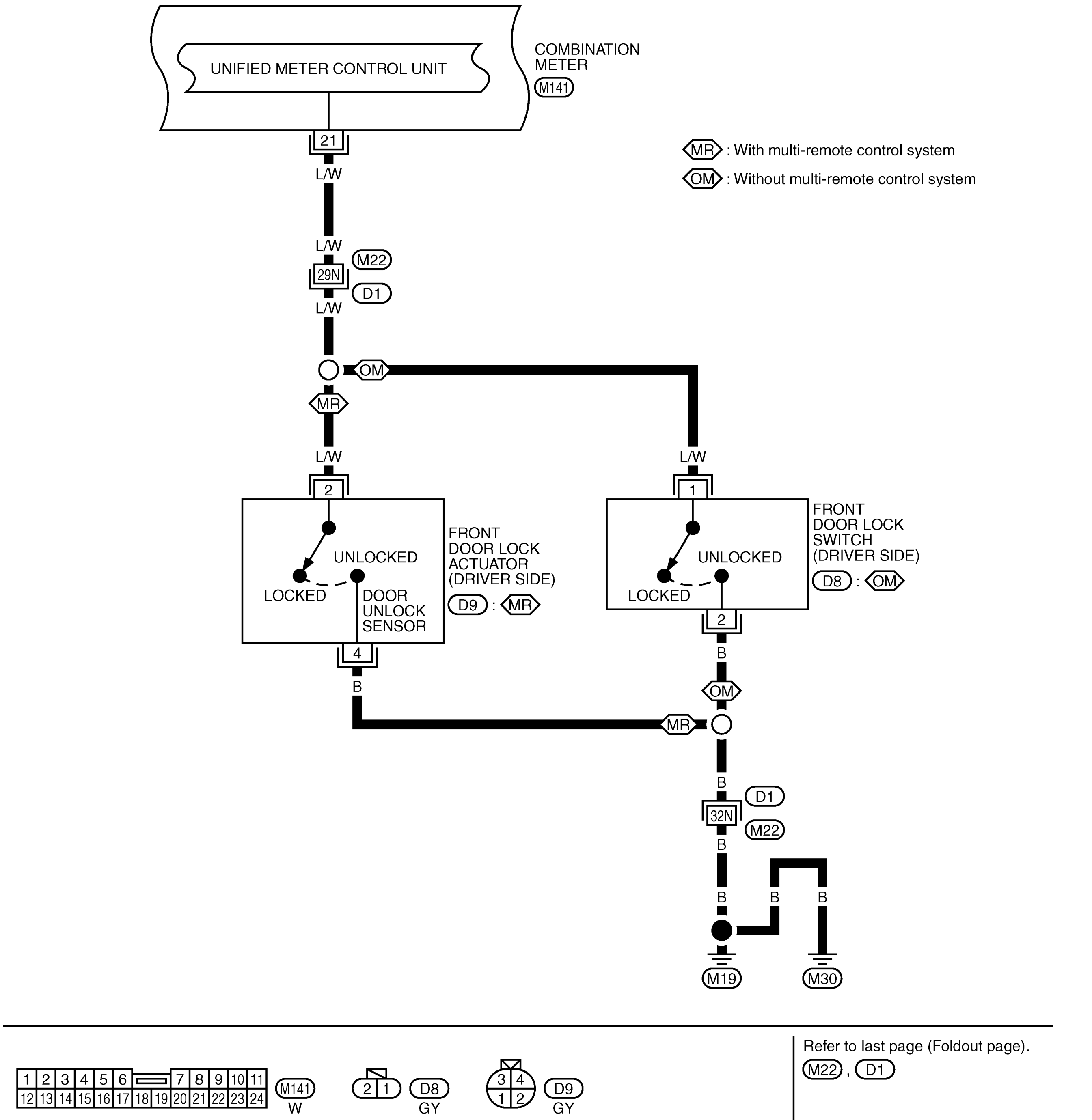
EL-ROOM/L-01



TEL412M

Wiring Diagram — ROOM/L —/LHD Models Except for Europe and China (Cont'd)

EL-ROOM/L-02

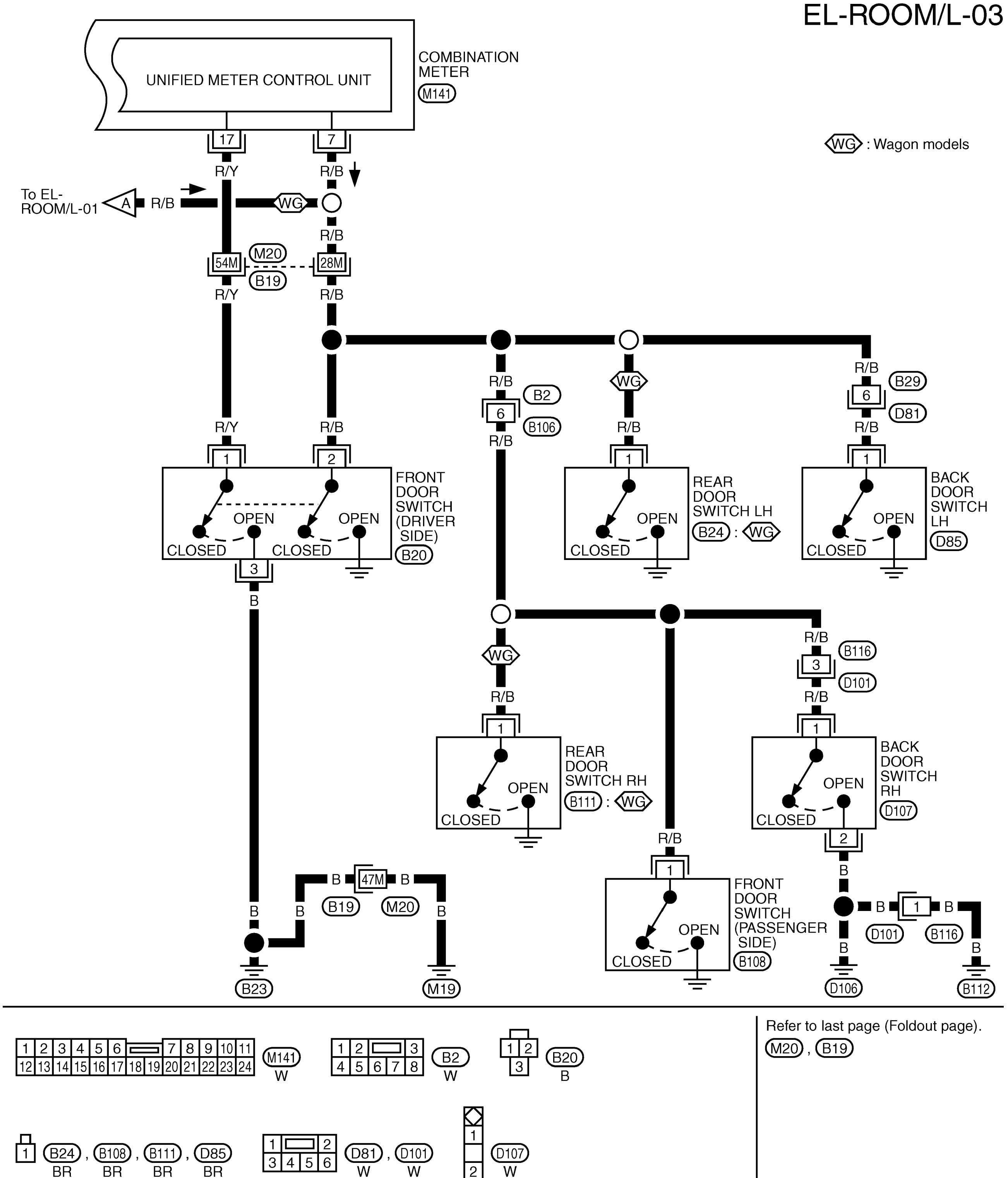


Refer to last page (Foldout page).
M22 , D1

TEL413M

Wiring Diagram — ROOM/L —/LHD Models Except for Europe and China (Cont'd)

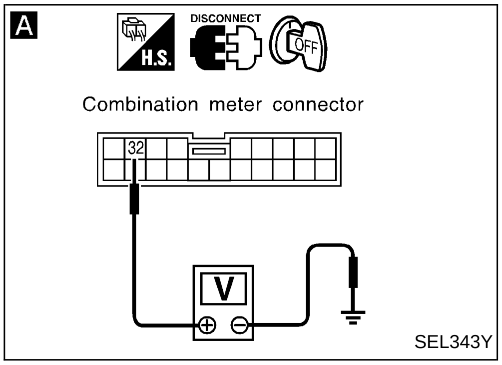
EL-ROOM/L-03



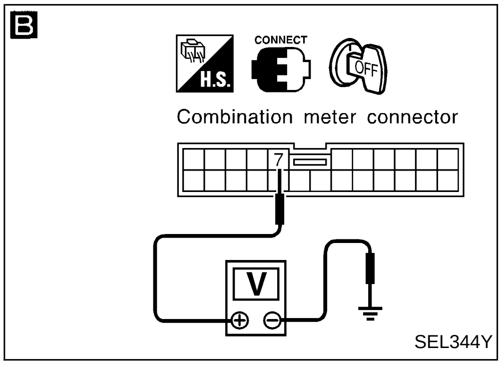
Refer to last page (Foldout page).
M20, B19

TEL414M

A



B



Trouble Diagnoses/LHD Models Except for Europe and China

DIAGNOSTIC PROCEDURE

SYMPTOM: Front interior room lamp does not turn on when any door is opened, or timer does not operate properly.

1. Does room lamp turn on when room lamp switch is in “ON” position?
   - No → Check the following.
     - Bulb
     - 10A fuse [No. 20 , located in the fuse block (J/B)]
     - Harness for open or short between fuse and room lamp
     - Room lamp ground condition
   - Yes → go to next step.

2. Does key warning chime operate properly?
   - No → Check “WARNING CHIME” system.
   - Yes → go to next step.

3. Does power door lock operate using driver side knob lock switch?
   - No → Check “POWER DOOR LOCK” system.
   - Yes → go to A.

A CHECK ROOM LAMP OUTPUT SIGNAL.
1. Turn room lamp switch to “DOOR” position.
2. Disconnect combination meter connector (M142) connector.
3. Check voltage between combination meter control (M142) terminal ㉜ (R/W) and ground.
   Battery voltage should exist.

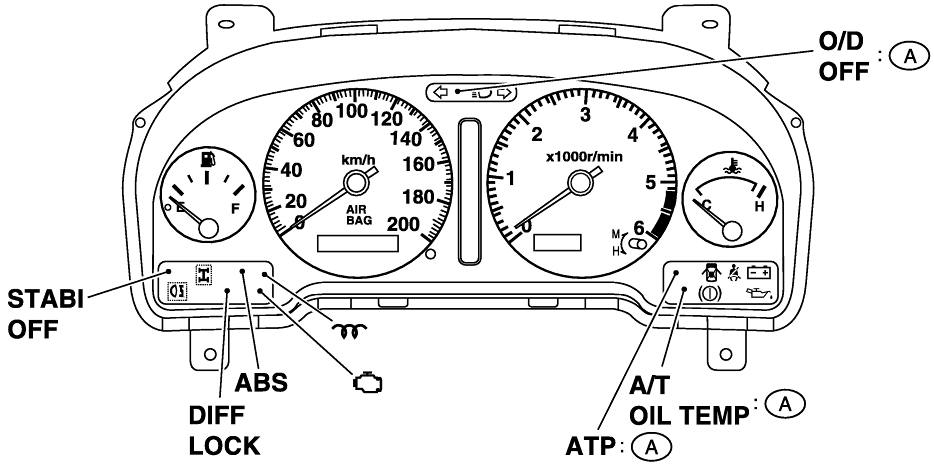
- NG → Check harness for open or short between room lamp and combination meter.
- OK → go to B.

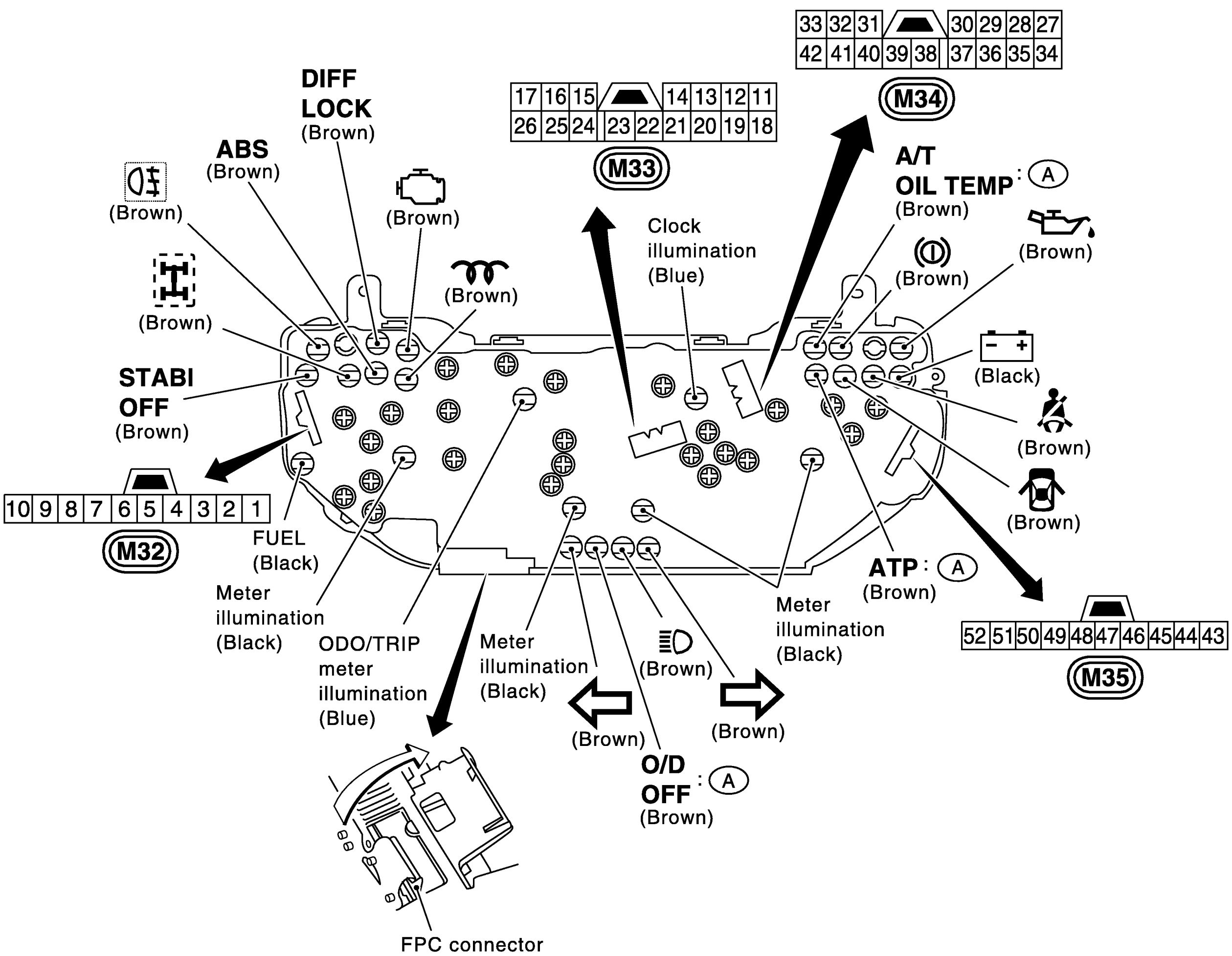
B CHECK DOOR SWITCH INPUT SIGNAL.
1. Connect combination meter connector (M142) connector.
2. Check voltage between combination meter connector (M142) terminal ⑦ (R/B) and ground.

Condition	Voltage [V]
At least one door is opened.	0
All doors are closed.	Approx. 12

- NG → Check the following.
  - Door switch
  - Door switch ground condition
  - Harness for open or short between combination meter and door switch
- OK → Replace control unit.

Combination Meter/For Europe





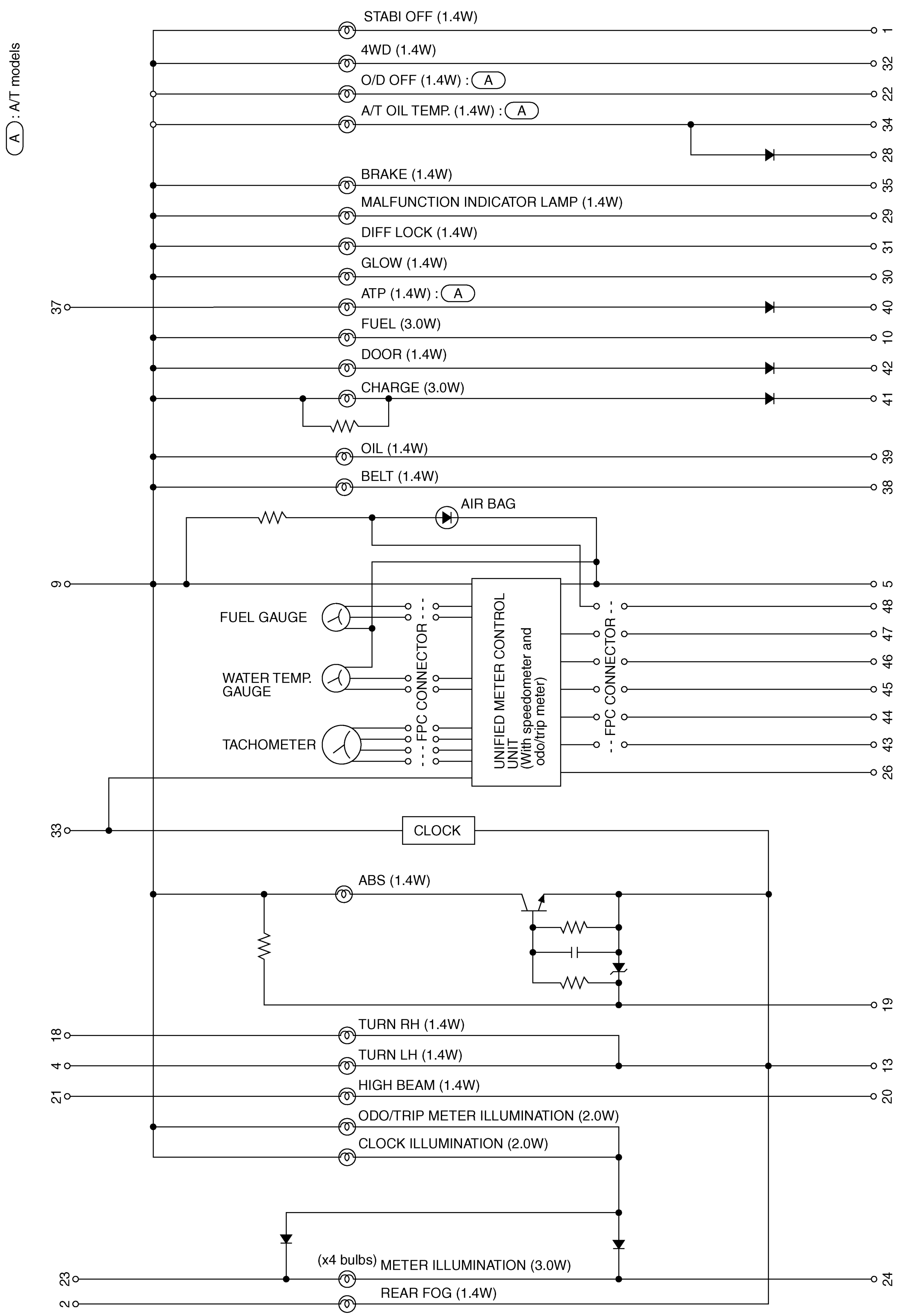
(A) : A/T models

Bulb socket color	Bulb wattage
Brown	1.4W
Blue	2.0W
Black	3.0W

( ) : Warning bulb socket color

CEL231M

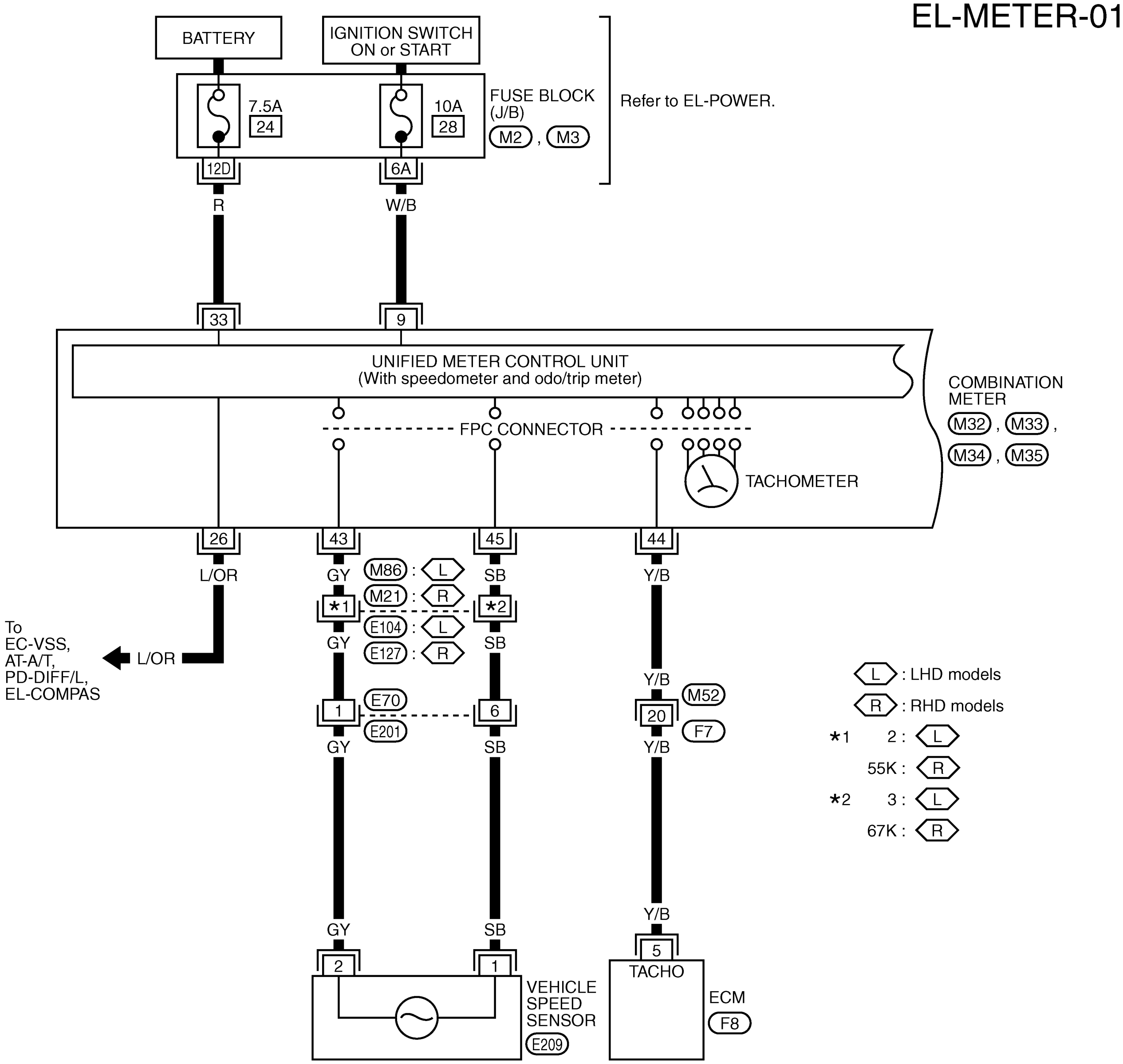
Schematic/For Europe

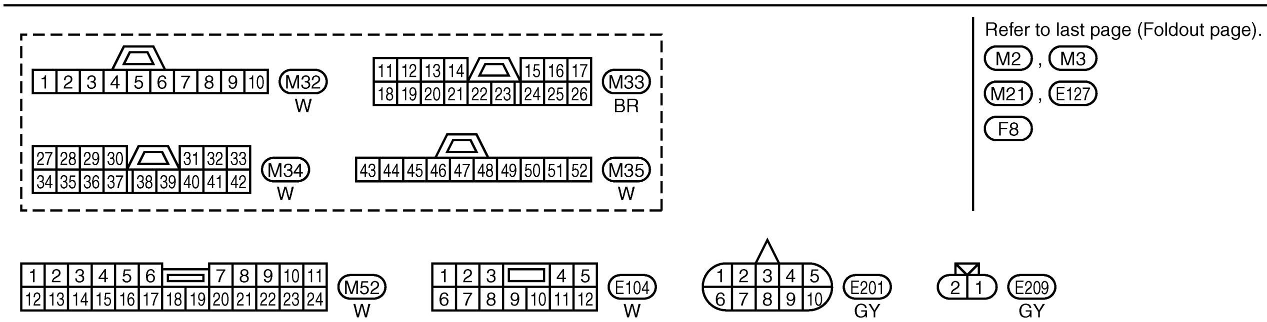


TEL481M

Wiring Diagram — METER —/For Europe

EL-METER-01

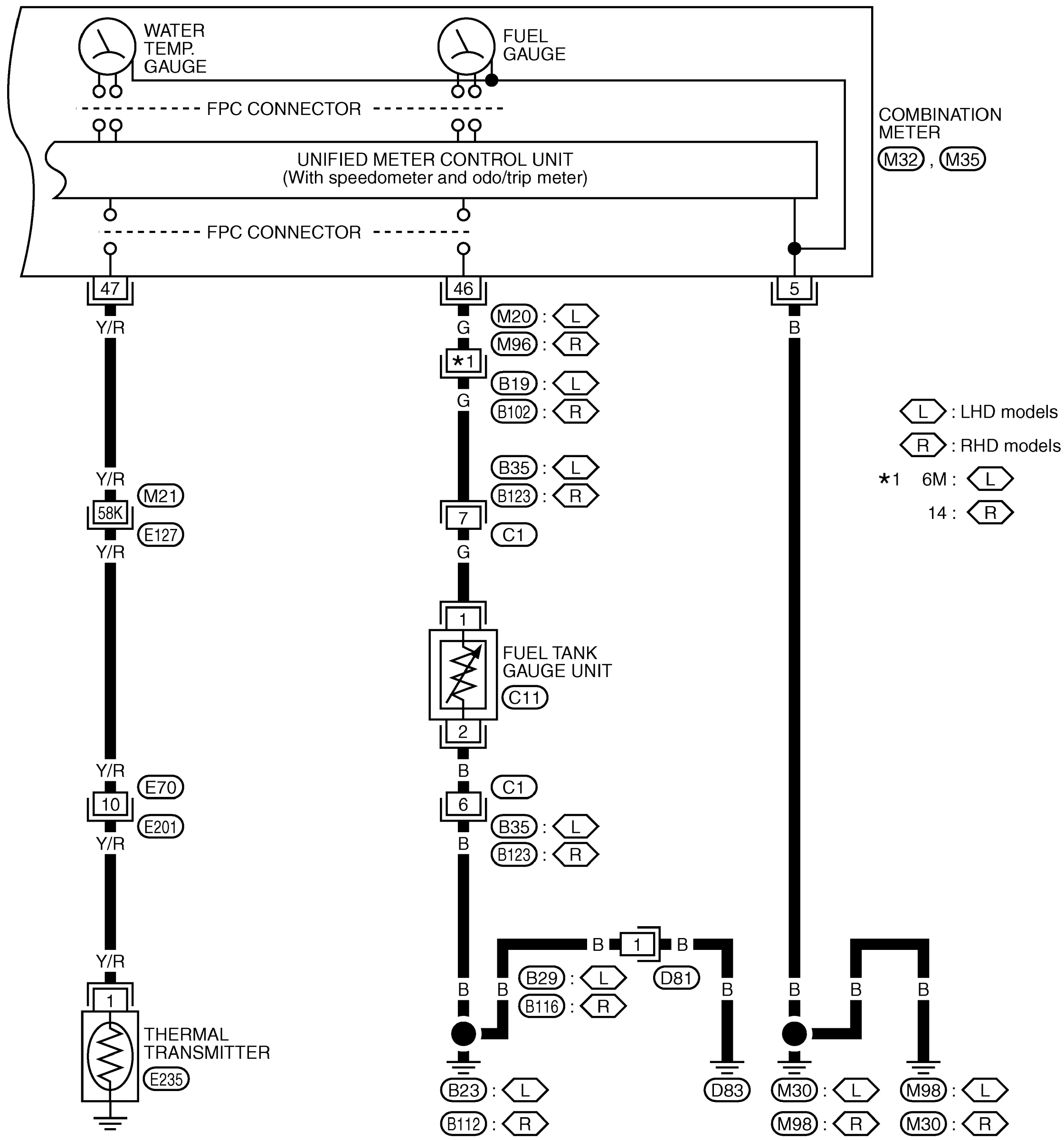


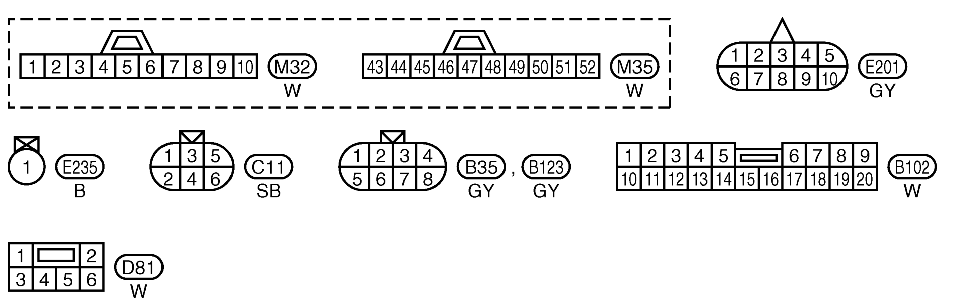


TEL415M

Wiring Diagram — METER —/For Europe (Cont'd)

EL-METER-02

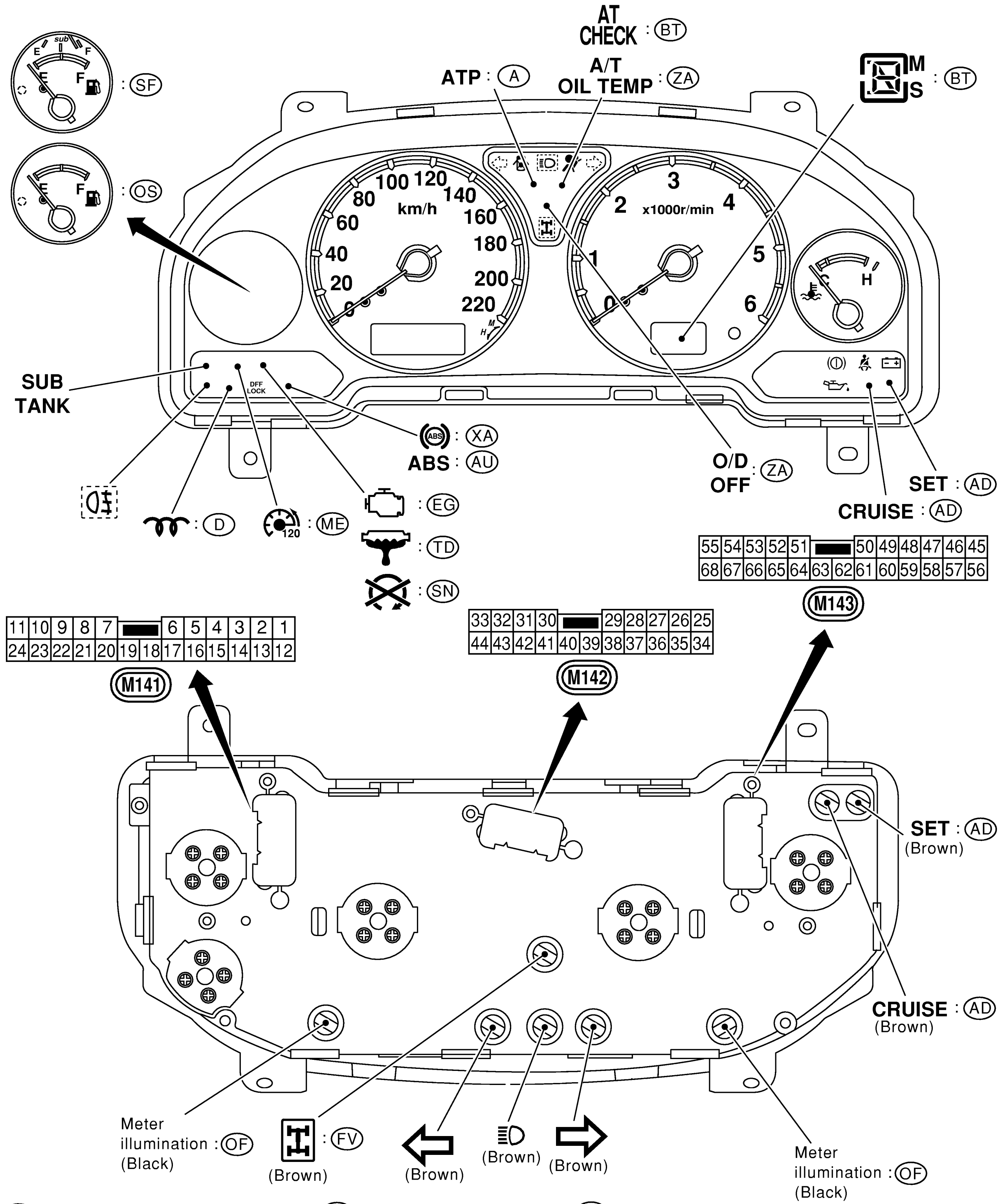




Refer to last page (Foldout page).
M20, B19
M21, E127

TEL416M

Combination Meter/Except for Europe



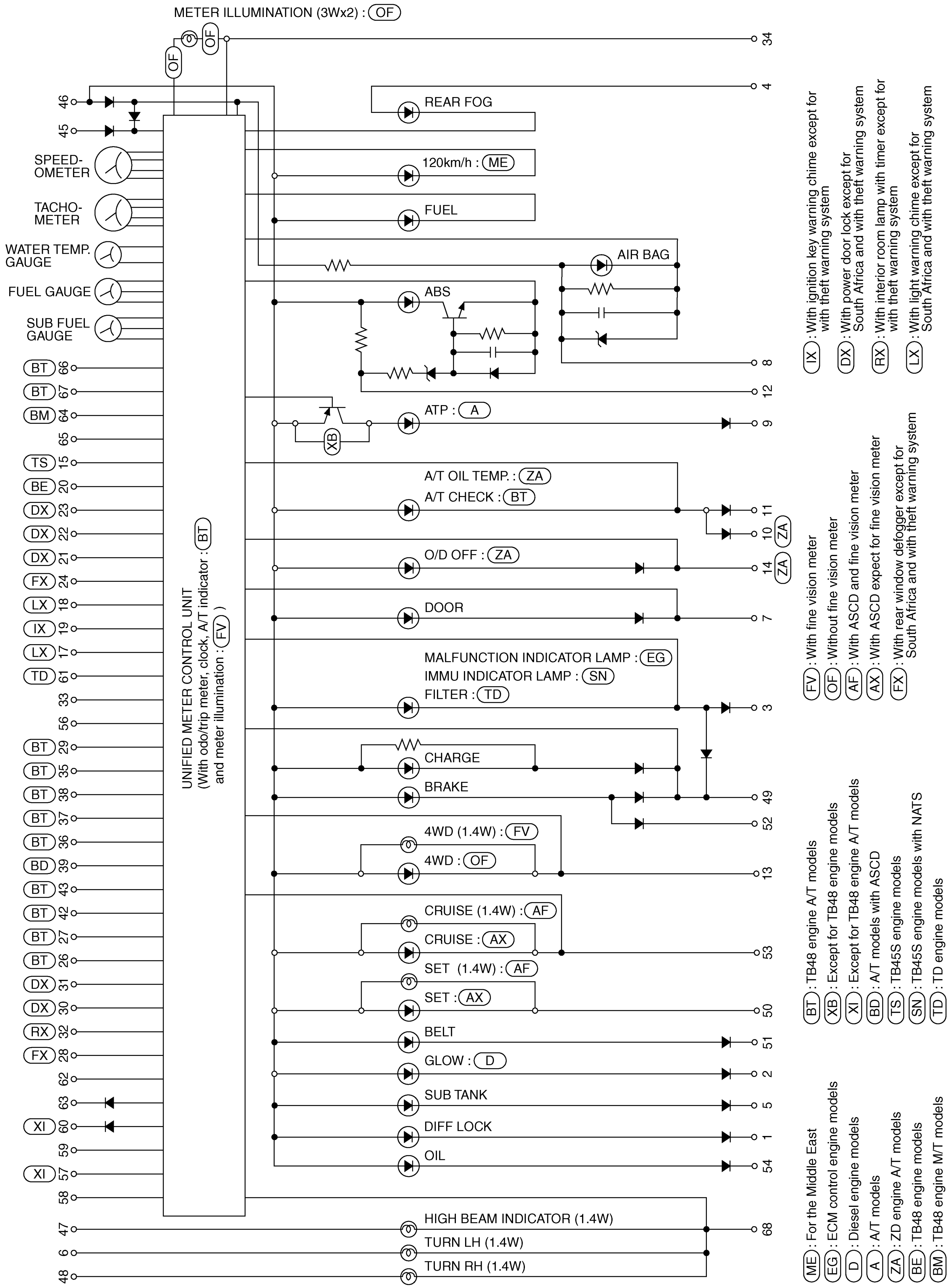
ME : For the Middle East
SN : TB45S engine models with NATS
A : A/T models
BT : TB48 engine A/T models
ZA : ZD engine A/T models
SF : With sub fuel tank
OS : Without sub fuel tank
FV : With fine vision meter
OF : Without fine vision meter
AU : For Australia
XA : Except for Australia
D : Diesel engine models
EG : ECM control engine models
TD : TD engine models
AD : With ASCD

Bulb socket color	Bulb wattage
Brown	1.4W
Black	3.0W

( ) : Warning bulb socket color

CEL312M

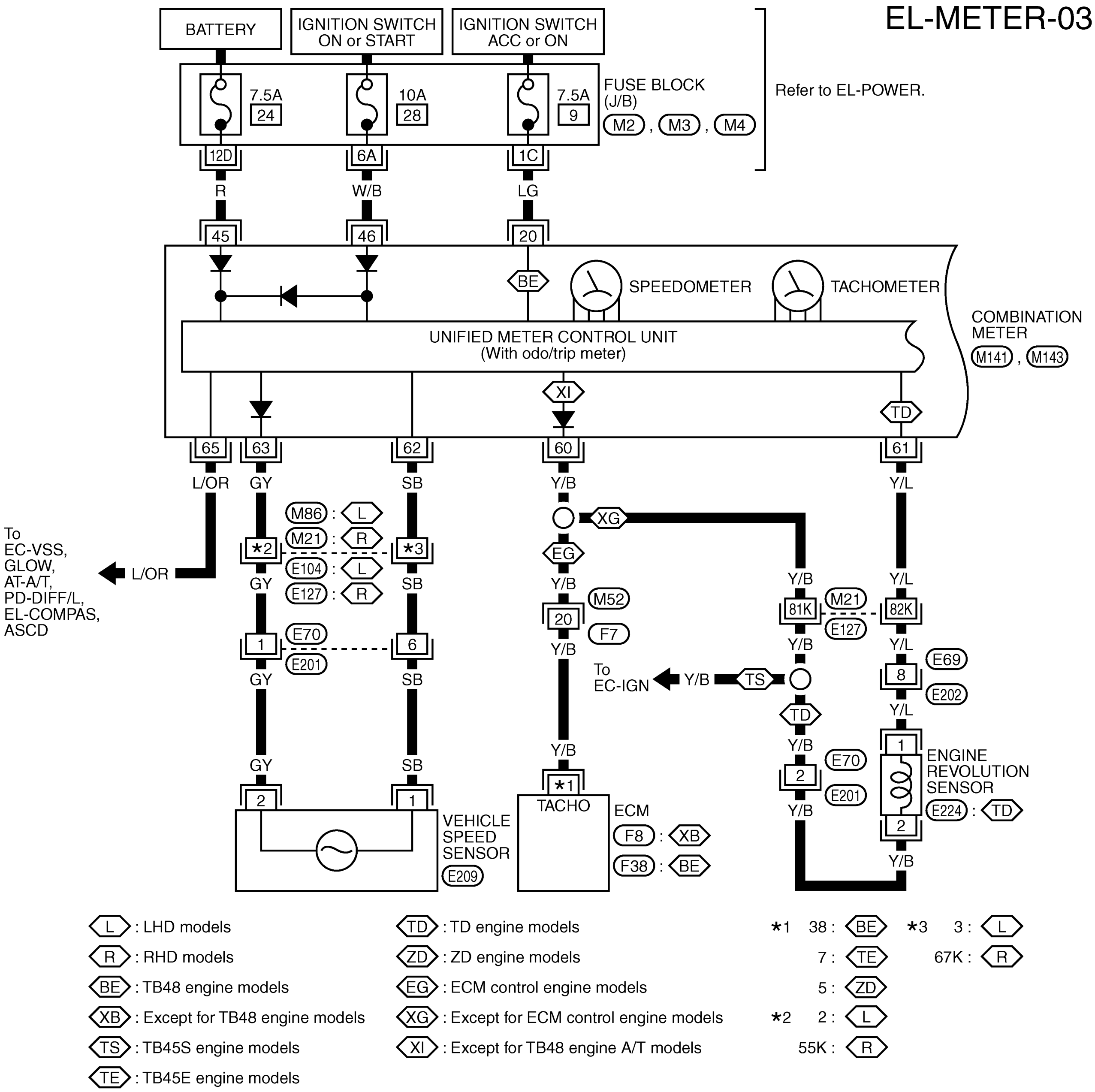
Schematic/Except for Europe

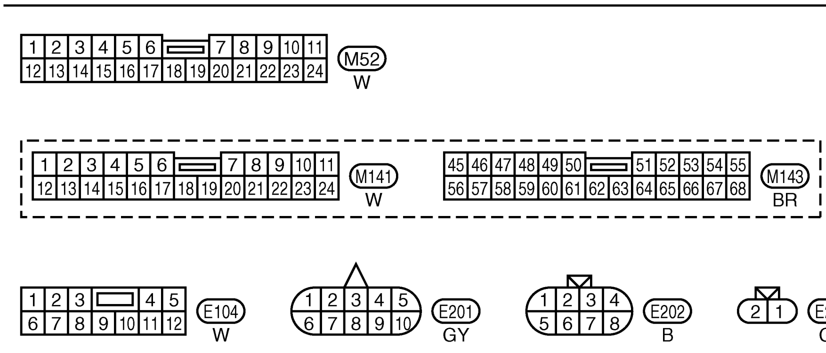


TEL616M

Wiring Diagram — METER —/Except for Europe

EL-METER-03



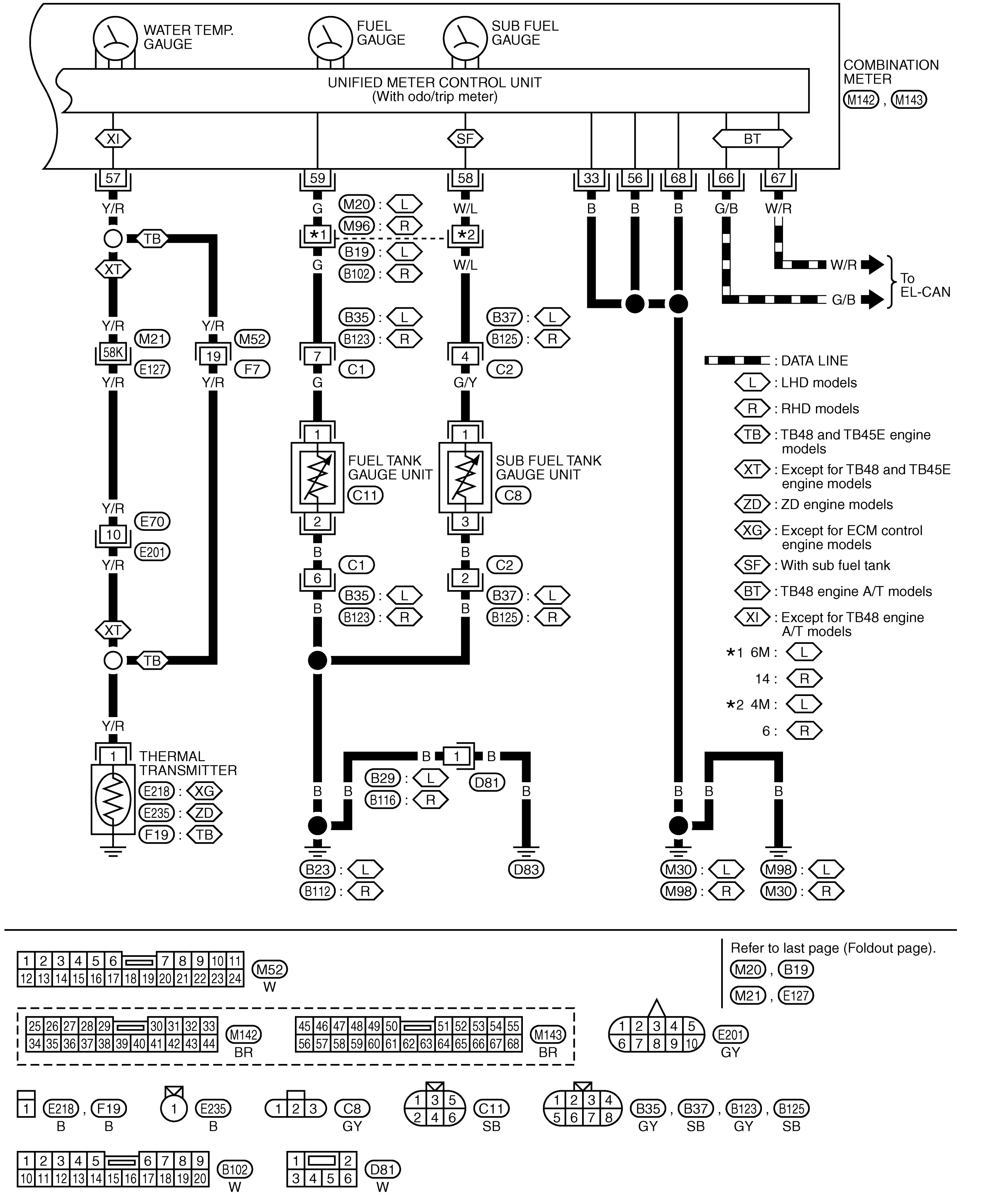


Refer to last page (Foldout page).
M21, E127
M2
M3
M4
F8
F38

TEL535M

Wiring Diagram — METER —/Except for Europe (Cont'd)

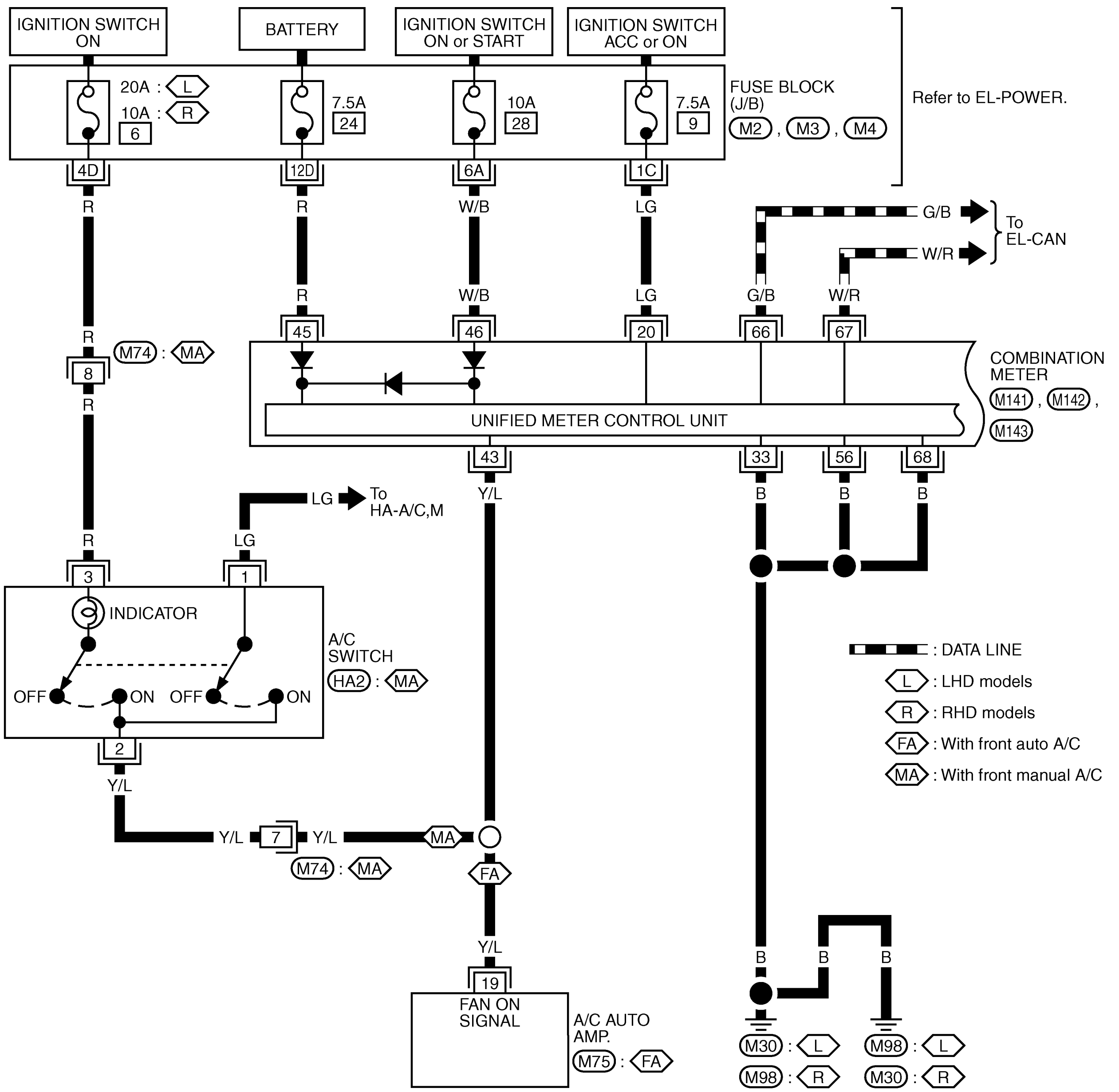
EL-METER-04

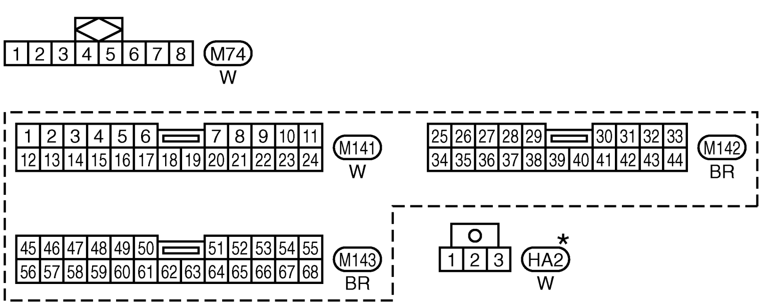


TEL536M

Wiring Diagram — LOAD/S —/TB48 Engine Models with A/T

EL-LOAD/S-01





*: This connector is not shown in "HARNESS LAYOUT", EL section.

Refer to last page (Foldout page).

M2

M3

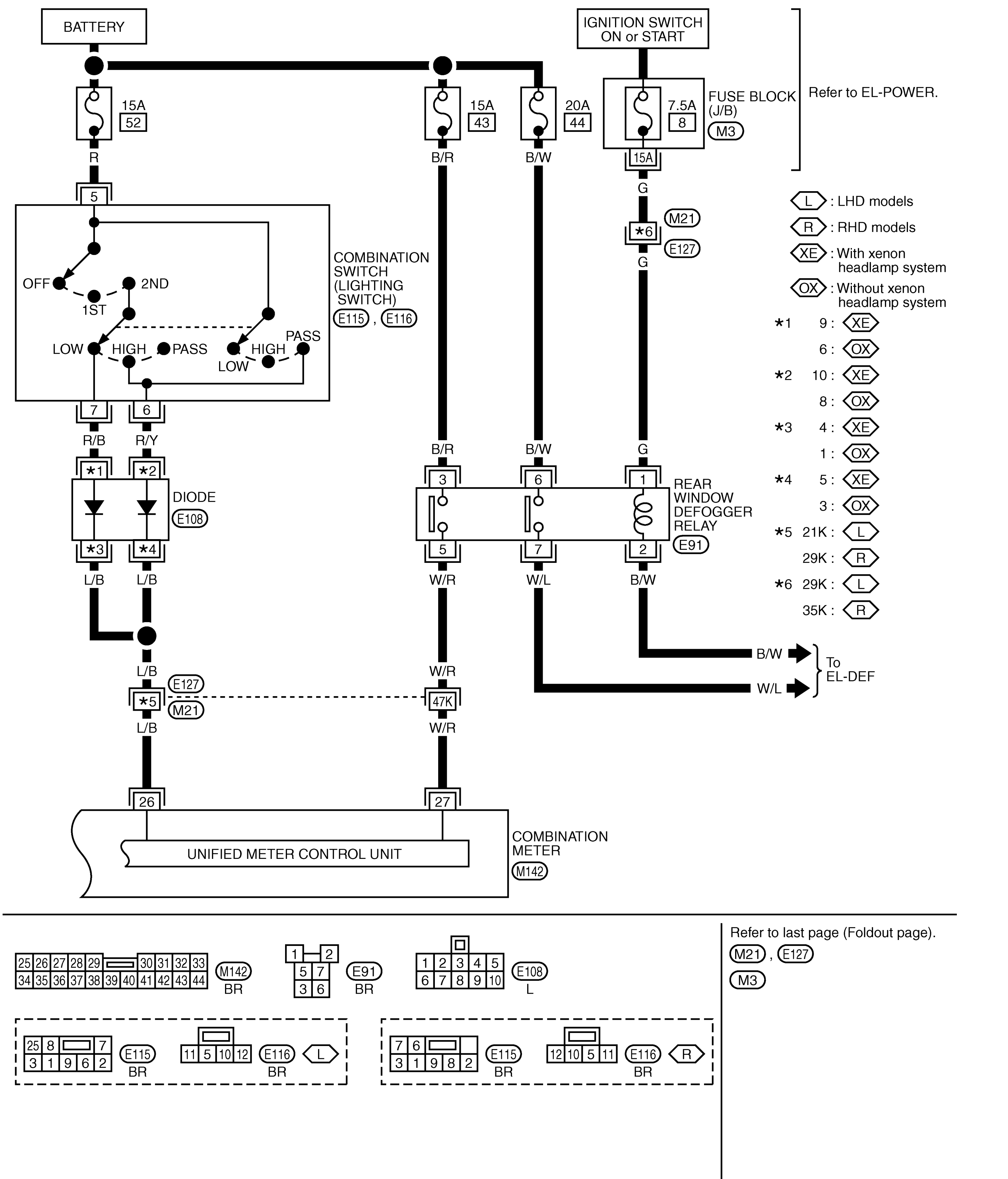
M4

M75

TEL622M

Wiring Diagram — LOAD/S —/TB48 Engine Models with A/T (Cont'd)

EL-LOAD/S-02



TEL623M

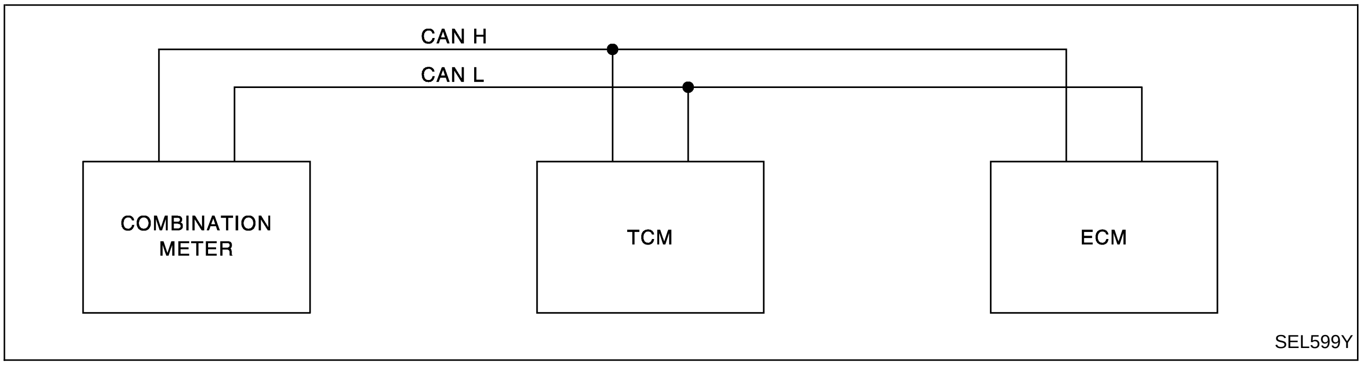
GI
MA
EM
LC
EC
FE
CL
MT
AT
TF
PD
FA
RA
BR
ST
RS
BT
HA
EL
SE
IDX

CAN Communication/TB48 Engine Models With A/T

SYSTEM DESCRIPTION

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

System diagram

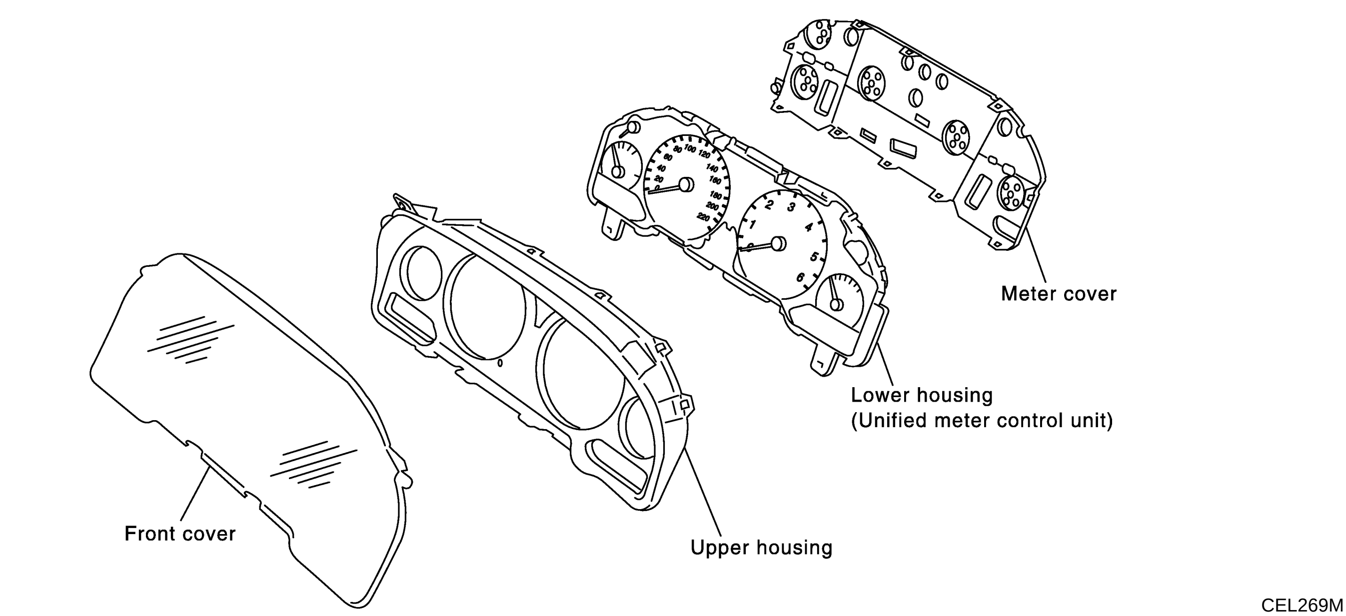


Input/Output signal chart

T: Transmit R: Receive

Signals	Combination meter	TCM	ECM
Engine speed signal	R	R	T
Engine coolant temperature signal	R	R	T
Accelerator pedal position signal		R	T
Closed throttle position signal		R	T
Wide open throttle position signal		R	T
A/T fluid temperature warning lamp signal	R	T	R
Current gear position signal	R	T	R
Shift change signal		T	R
Air conditioner switch signal	T		R
Headlamp switch signal	T		R
Rear window defogger switch signal	T		R
Brake switch signal	T	R	
Vehicle speed signal	T	R	R
A/T self diagnosis signal		T	R
Manual mode signal	T	R	

Construction/Except for Europe



CEL269M

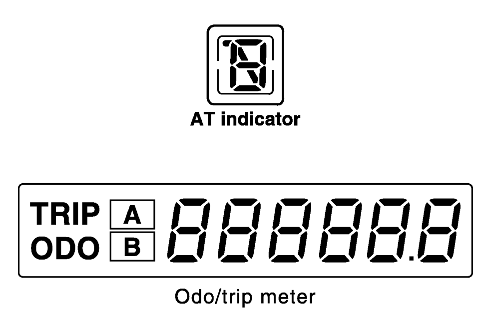
Meter/Gauge Operation, Odo/Trip Meter and A/T Indicator Segment Check in Diagnosis Mode/ Except for Europe

DIAGNOSIS FUNCTION

- Odo/trip meter segment and A/T indicator segment (TB48 A/T models) can be checked in diagnosis mode.
- Meters/gauges can be checked in diagnosis mode.

HOW TO ALTERNATE DIAGNOSIS MODE

1. Turn ignition switch to ON and change odo/trip meter to “TRIP A” or “TRIP B”.
2. Turn ignition switch to OFF.
3. Turn ignition switch to ON when pushing odo/trip meter switch.
4. Confirm that trip meter indicates “0000.0”.
5. Push odo/trip meter switch more than three times within 5 seconds.

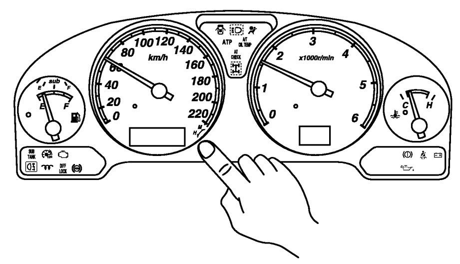


CEL369A

6. All odo/trip meter, clock and A/T indicator segments should be turned on.

NOTE: If some segments are not turned on, (unified meter control unit) should be replaced.

At this point, the unified control meter is turned to diagnosis mode.

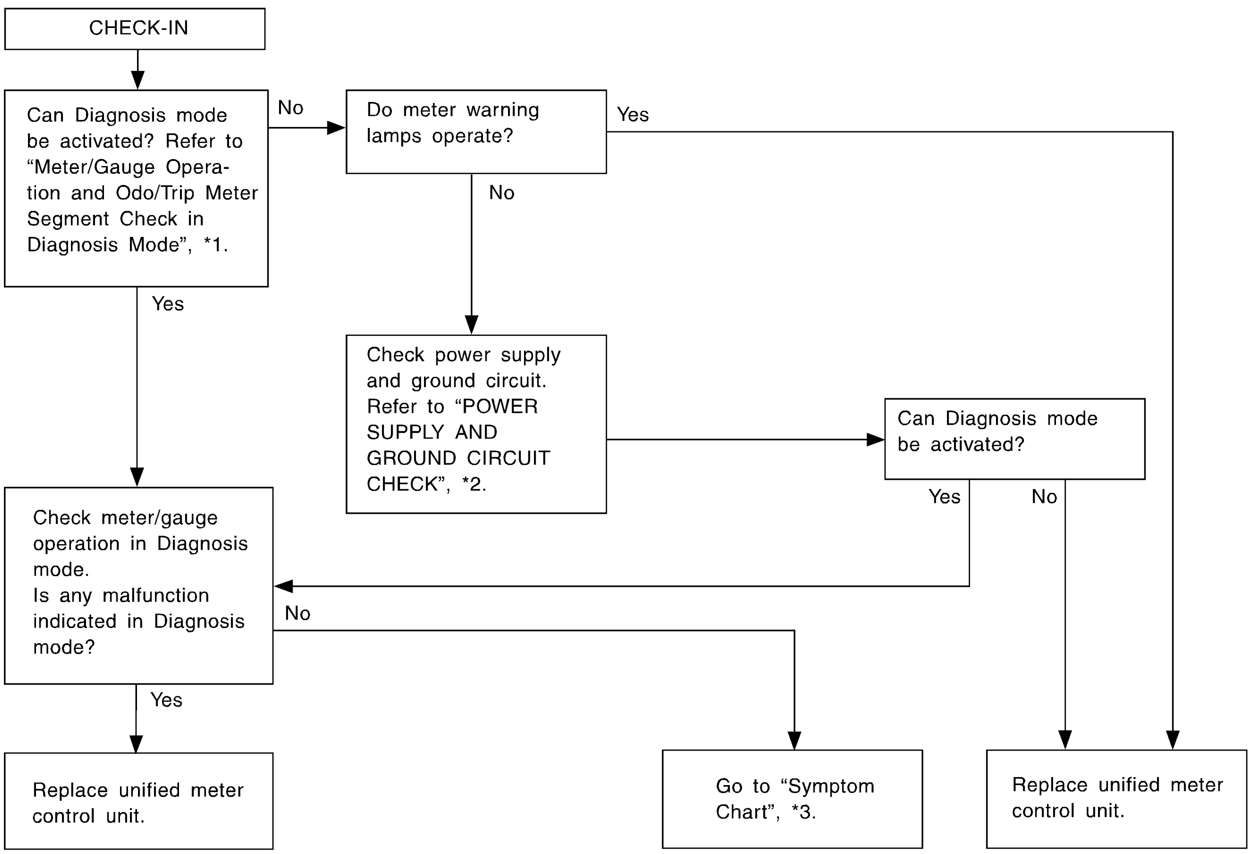


CEL370A

7. Push odo/trip meter switch. Indication of each meter/gauge should be as shown left during pushing odo/trip meter switch if it is no malfunctioning.

Trouble Diagnoses/Except for Europe

PRELIMINARY CHECK



SEL269Y

*1: Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode (EL-124)

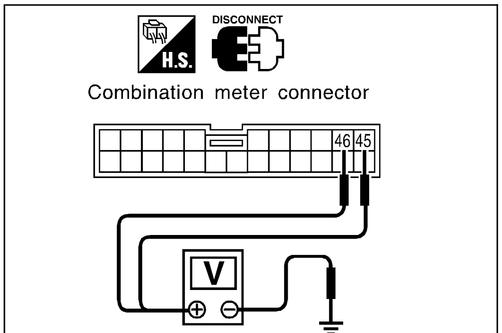
*2: POWER SUPPLY AND GROUND CIRCUIT CHECK (EL-126)

*3: Symptom Chart (EL-126)

SYMPTOM CHART

Symptom	Possible causes	Repair order
One of speedometer/fuel gauge/water temp. gauge is malfunctioning.	1. Sensor signal - Vehicle speed signal - Fuel gauge - Water temp. gauge 2. Unified meter control unit	1. Check the sensor for malfunctioning meter/gauge. INSPECTION/VEHICLE SPEED SIGNAL (Refer to EL-127.) INSPECTION/FUEL TANK GAUGE (MAIN) (Refer to EL-129.) INSPECTION/THERMAL TRANSMITTER (Except for TB48 engine A/T models) (Refer to EL-130.) INSPECTION/ENGINE COOLANT TEMPERATURE SENSOR (For TB48 engine A/T models) (Refer to EL-131.) 2. Replace unified meter control unit.
Multiple meter/gauge are malfunctioning. (except odo/trip meter)		

Before starting trouble diagnoses below, perform PRELIMINARY CHECK, EL-125.



SEL345Y

POWER SUPPLY AND GROUND CIRCUIT CHECK

Power supply circuit check

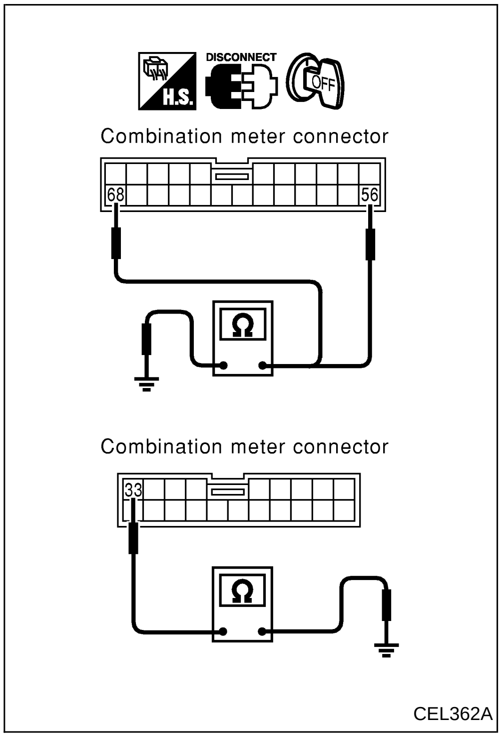
Terminals (M143)		Ignition switch position		
⊕	⊖	OFF	ACC	ON
45 (R)	Ground	Battery voltage	Battery voltage	Battery voltage
46 (W/B)	Ground	0V	0V	Battery voltage

If NG, check the following.

- 7.5A fuse [No. 24 , located in fuse block (J/B)]
- 10A fuse [No. 28 , located in fuse block (J/B)]
- Harness for open or short between fuse and combination meter

Trouble Diagnoses/Except for Europe (Cont'd)

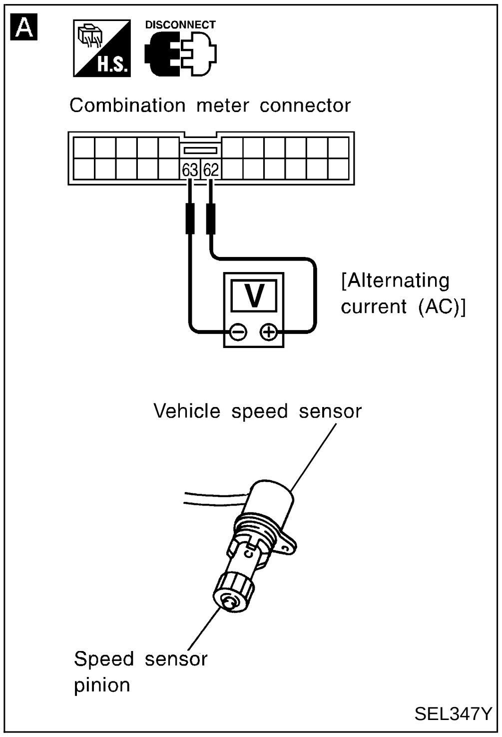
Ground circuit check



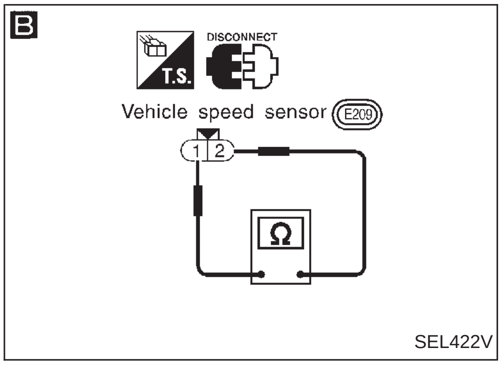
CEL362A

Connector	Terminals	Continuity
M142	33 (B) - Ground	Yes
M143	56 (B), 68 (B) - Ground	Yes

INSPECTION/VEHICLE SPEED SENSOR



SEL347Y



SEL422V

A

CHECK VEHICLE SPEED SENSOR OUTPUT.
1. Remove vehicle speed sensor from transmission.
2. Check voltage between combination meter connector M143 terminals 62 (SB) and 63 (GY) while quickly turning speed sensor pinion.
   Voltage: Approx. 0.5V

OK → Vehicle speed sensor is OK.

NG ↓

B

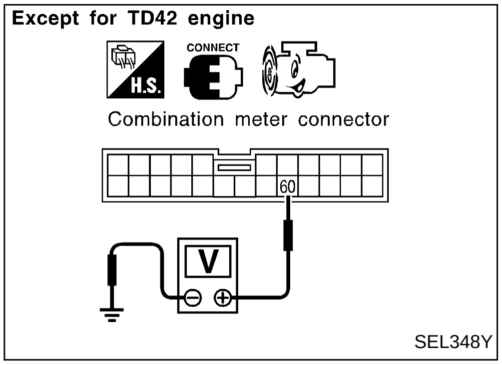
CHECK VEHICLE SPEED SENSOR.
Check resistance between vehicle speed sensor terminals 1 and 2.
Resistance: Approx. 250Ω

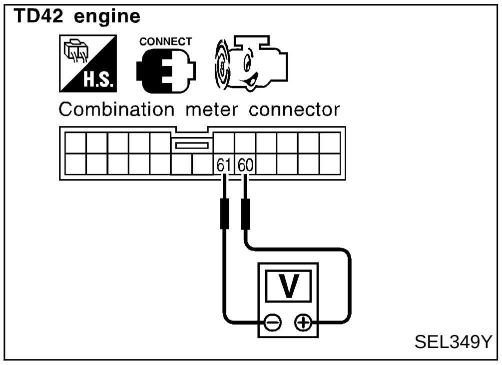
NG → Replace vehicle speed sensor.

OK ↓

Check harness for open or short between speedometer and vehicle speed sensor.

Trouble Diagnoses/Except for Europe (Cont'd)





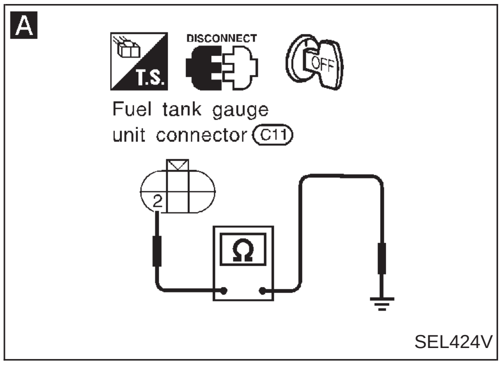
INSPECTION/ENGINE REVOLUTION SIGNAL

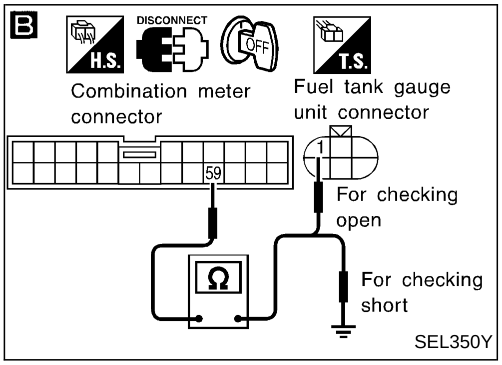
Engine	Check item	Terminals		Explanation
		⊕	⊖	
TB45E, TB48DE with M/T, ZD30DDTi	DC voltage	60 (Y/B)	Ground	Higher rpm = Higher voltage Lower rpm = Lower voltage Voltage should change with rpm.
TB45S (Carburetor)	AC voltage	60 (Y/B)	Ground	
TD42 [Diesel (Mechanical pump type)]	AC voltage	61 (Y/L)	60 (Y/B)	

Engine	Check item
TB45E, TB48DE with M/T, ZD30DDTi	• Harness for open or short and connection
TB45S (Carburetor)	• Harness for open or short and connection • Resistor etc.
TD42 [Diesel (Mechanical pump type)]	• Harness for open or short and connection • Engine revolution sensor etc.
TB48DE with A/T	• ECM self-diagnosis. Refer to "CONSULT-II" for TB48DE A/T in EC section. When the ECM self-diagnosis results NG, check engine control system.

Trouble Diagnoses/Except for Europe (Cont'd)

INSPECTION/FUEL TANK GAUGE (MAIN)





A

CHECK GROUND CIRCUIT FOR FUEL TANK GAUGE UNIT.
Check harness continuity between fuel tank gauge unit connector (C11) terminal 2 (B) and ground.
Continuity should exist.

- NG → Repair harness or connector.
- OK ↓

CHECK GAUGE UNITS.
Refer to "FUEL TANK GAUGE UNIT CHECK".

- NG → Repair or replace. Refer to FE section.
- OK ↓

B

CHECK HARNESS FOR OPEN OR SHORT.
1. Disconnect combination connector and fuel tank gauge unit connector.
2. Check continuity between combination meter connector (M143) terminal 59 (G) and fuel tank gauge unit Connector (C11) terminal 1 (G).

Continuity should exist.

3. Check continuity between combination meter connector (M143) terminal 59 (G) and ground.

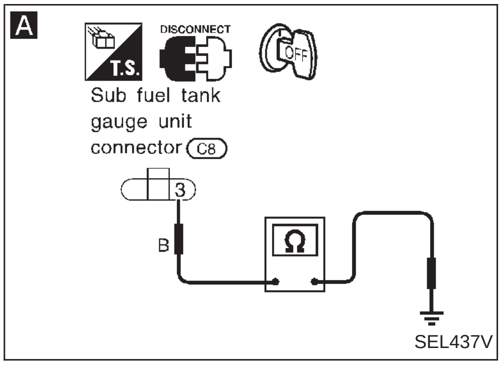
Continuity should not exist.

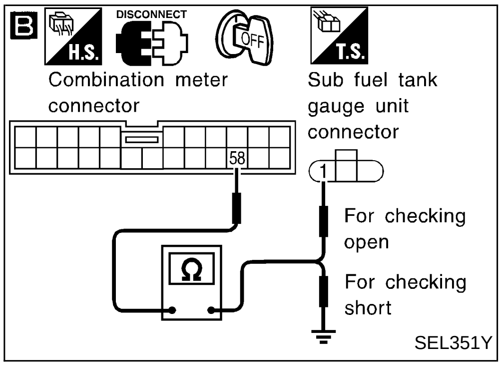
- NG → Repair harness or connector.
- OK ↓

Fuel tank gauge is OK.

Trouble Diagnoses/Except for Europe (Cont'd)

INSPECTION/FUEL TANK GAUGE (SUB)





A

CHECK GROUND CIRCUIT FOR FUEL TANK GAUGE UNIT.
Check harness continuity between sub fuel tank gauge unit connector (C8) terminal 3 (B) and ground.
Continuity should exist.

NG → Repair harness or connector.

↓ OK

CHECK GAUGE UNITS.
Refer to "SUB FUEL TANK GAUGE UNIT CHECK" (EL-132).

NG → Repair or replace. Refer to FE section.

↓ OK

B

CHECK HARNESS FOR OPEN OR SHORT.
1. Disconnect combination connector and sub fuel tank gauge unit connector.
2. Check continuity between combination meter Connector (M143) terminal 58 (W/L) and sub fuel tank gauge unit connector (C8) terminal 1 (GY).

Continuity should exist.

3. Check continuity between combination meter connector (M143) terminal 58 (W/L) and ground.

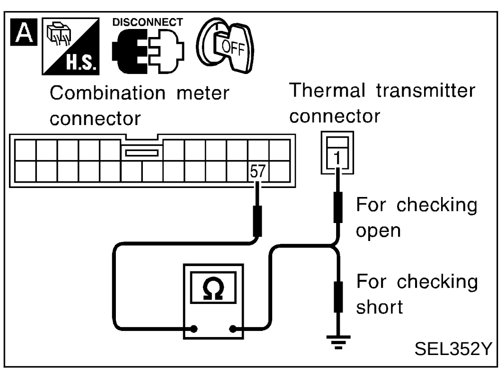
Continuity should not exist.

NG → Repair harness or connector.

↓ OK

Sub fuel tank gauge is OK.

INSPECTION/THERMAL TRANSMITTER (Except for TB48 engine A/T models)



CHECK THERMAL TRANSMITTER.
Refer to "THERMAL TRANSMITTER CHECK" (EL-132).

NG → Repair or replace.

↓ OK

A

CHECK HARNESS FOR OPEN OR SHORT.
1. Disconnect combination connector and thermal transmitter connector.
2. Check continuity between combination meter connector (M143) terminal 57 (Y/R) and thermal transmitter terminal 1 (Y/R).

Continuity should exist.

3. Check continuity between combination meter connector (M143) terminal 57 (Y/R) and ground.

Continuity should not exist.

NG → Repair harness or connector.

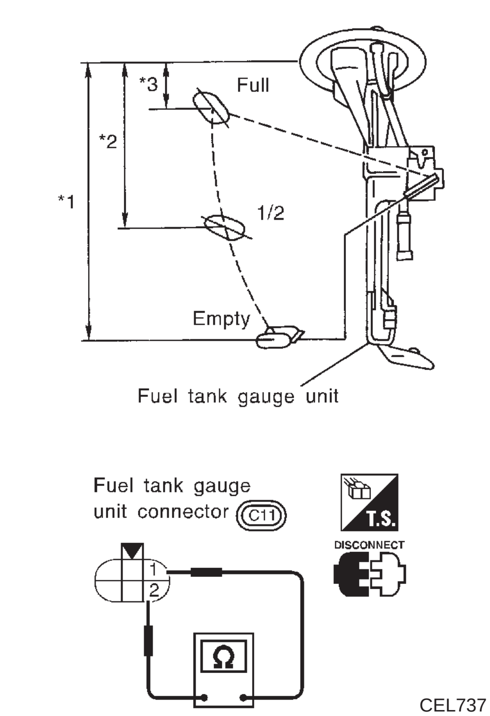
↓ OK

Thermal transmitter is OK.

Trouble Diagnoses/Except for Europe (Cont'd)

INSPECITON/ENGINE COOLANT TEMPERATURE SENSOR (For TB48 engine A/T models)

Perform the ECM self-diagnosis. Refer to "CONSULT-II" for TB48DE A/T in EC section.
When the ECM self-diagnosis results NG, check engine control system.



CEL737

Electrical Components Inspection

FUEL TANK GAUGE UNIT CHECK

- For removal, refer to FE section.

Check the resistance between terminals ① and ②.

TB48 and TB45E engine models

Ohmmeter (+)	Ohmmeter (−)	Float position mm (in)			Resistance value (Ω)
①	②	*3	Full	60 (2.36)	Approx. 4 - 6
		*2	1/2	178 (7.01)	27 - 35
		*1	Empty	272 (10.71)	78 - 85

*1 and *3: When float rod is in contact with stopper.

TB45S engine models

Ohmmeter (+)	Ohmmeter (−)	Float position mm (in)			Resistance value (Ω)
①	②	*3	Full	60 (2.36)	Approx. 4 - 6
		*2	1/2	174 (6.85)	27 - 35
		*1	Empty	272 (10.71)	78 - 85

*1 and *3: When float rod is in contact with stopper.

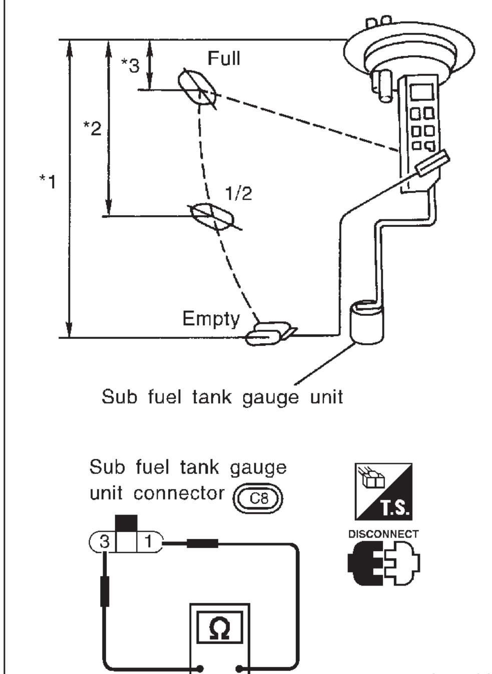
Diesel engine models

Ohmmeter (+)	Ohmmeter (−)	Float position mm (in)			Resistance value (Ω)
①	②	*3	Full	60 (2.36)	Approx. 4 - 6
		*2	1/2	172 (6.77)	27 - 35
		*1	Empty	272 (10.71)	78 - 85

*1 and *3: When float rod is in contact with stopper.

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Electrical Components Inspection (Cont'd)



CEL738

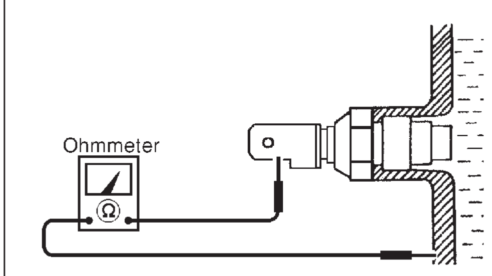
SUB FUEL TANK GAUGE UNIT CHECK

- For removal, refer to FE section.

Check the resistance between terminals ① and ③.

Ohmmeter		Float position mm (in)			Resistance value (Ω)
(+)	(−)				
①	③	*3	Full	83 (3.27)	Approx. 4 - 6
		*2	1/2	146 (5.75)	27 - 35
		*1	Empty	230 (9.06)	140 - 153

*1 and *3: When float rod is in contact with stopper.

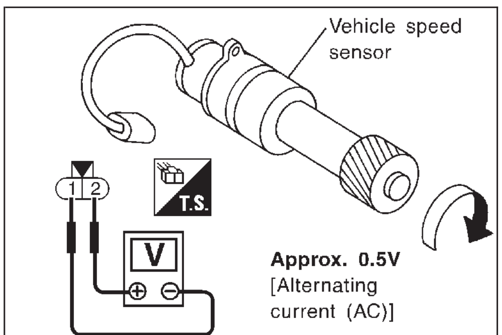


MEL424F

THERMAL TRANSMITTER CHECK

Check the resistance between the terminals of thermal transmitter and body ground.

Water temperature	Resistance (Ω)
60°C (140°F)	Approx. 170 - 210
100°C (212°F)	Approx. 47 - 53



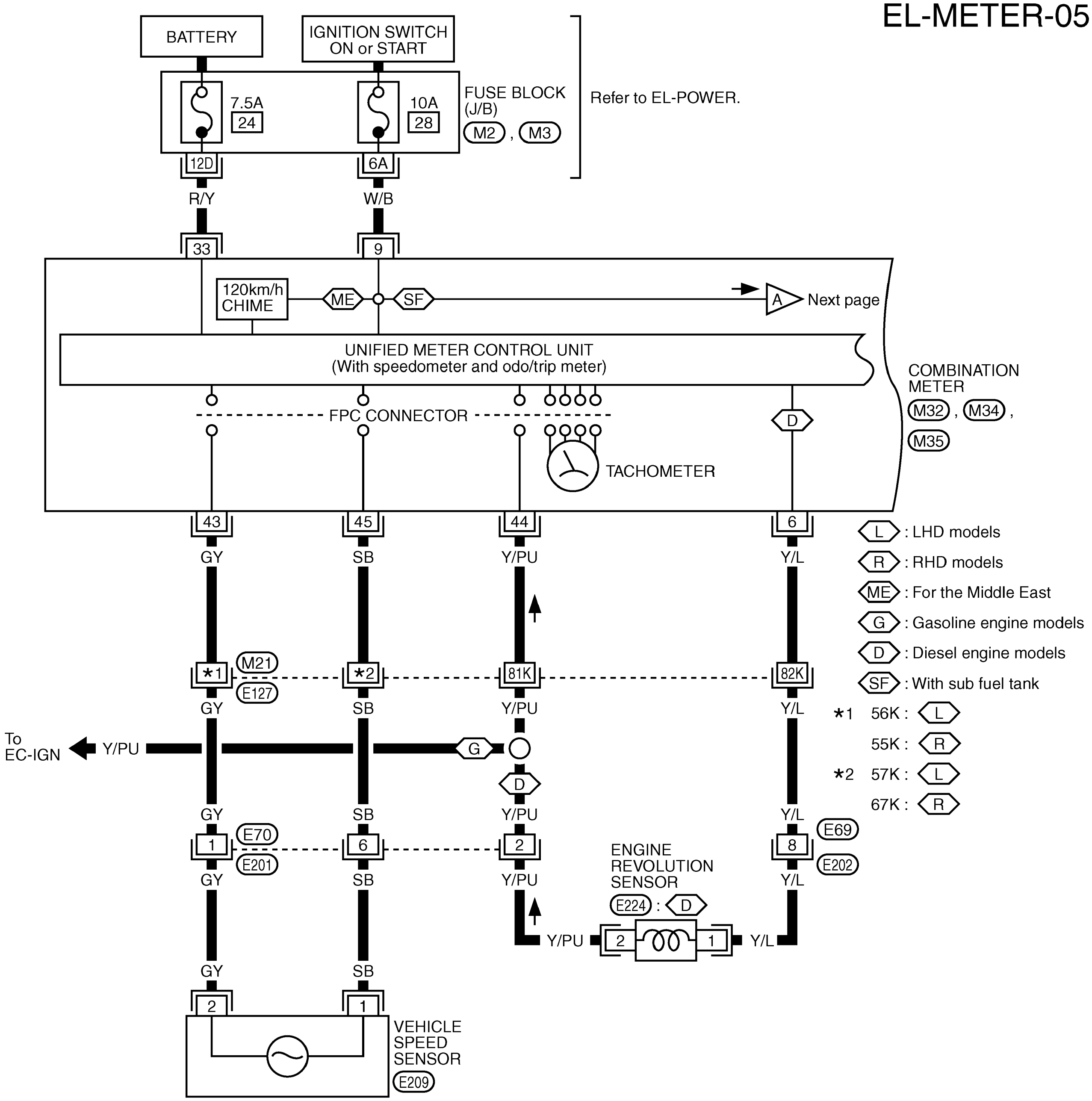
CEL739

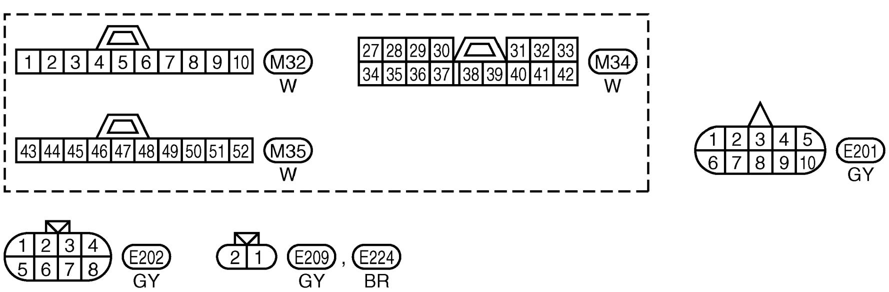
VEHICLE SPEED SENSOR CHECK

1. Remove vehicle speed sensor from transmission.
2. Turn vehicle speed sensor pinion quickly and measure voltage between terminals ② and ①.

Wiring Diagram — METER —

EL-METER-05



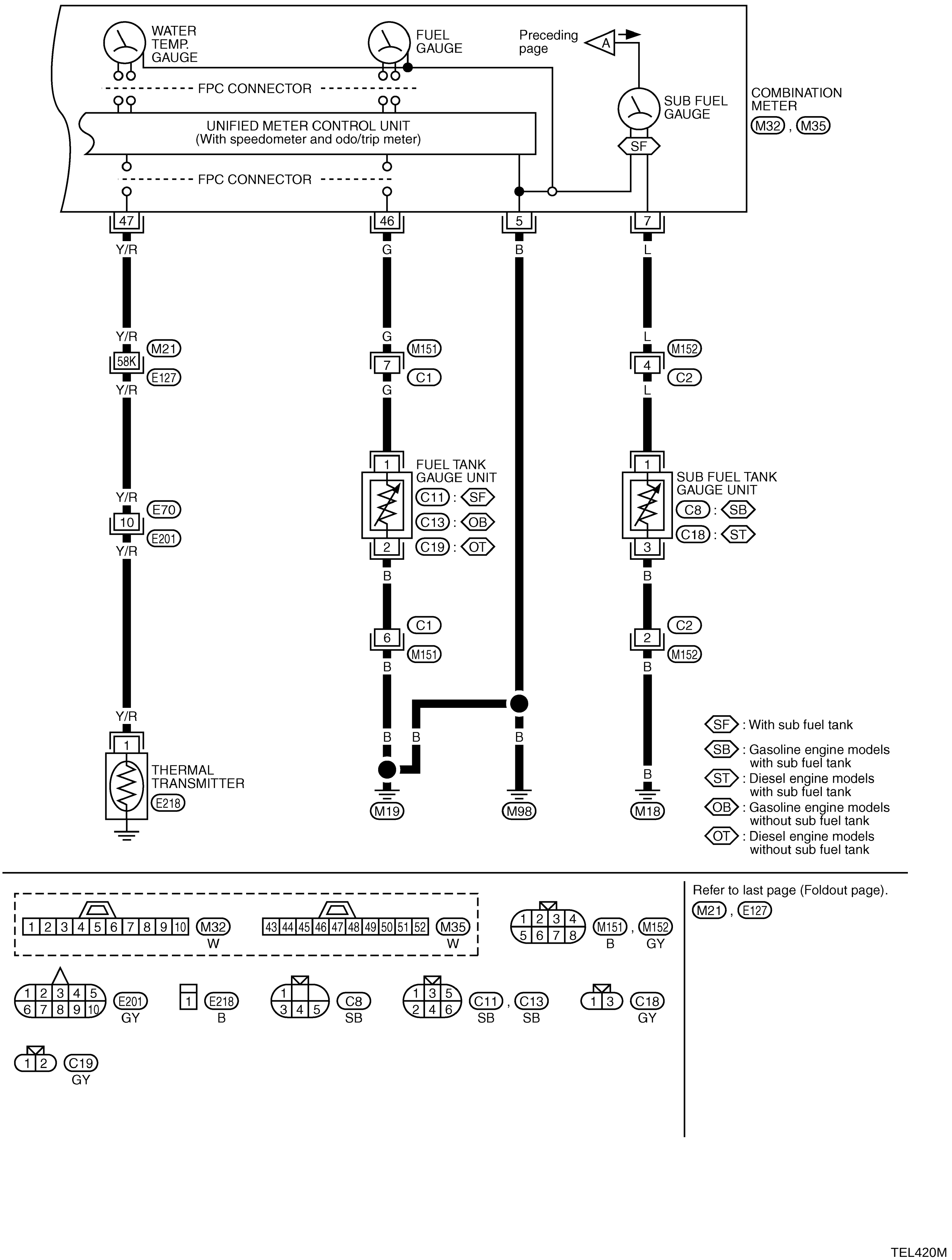


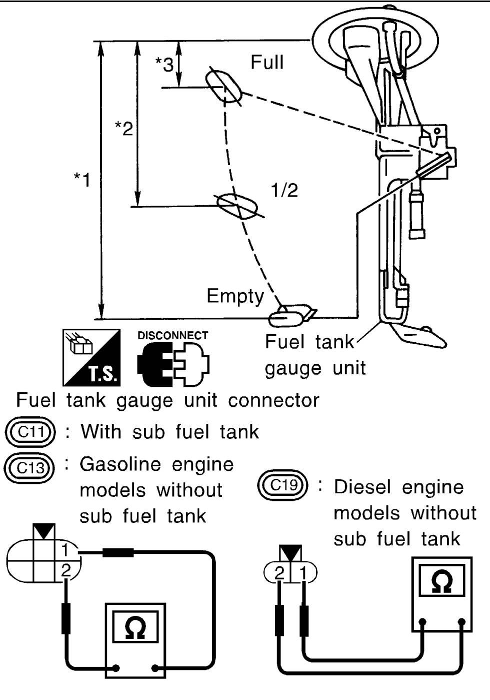
Refer to last page (Foldout page).
M21 , E127
M2
M3

TEL419M

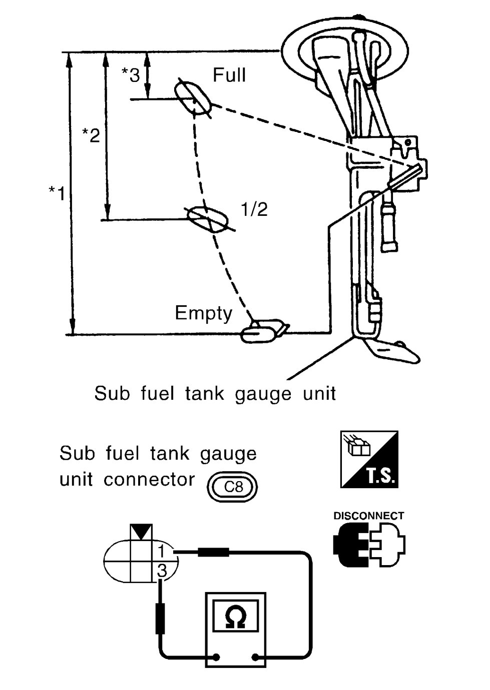
Wiring Diagram — METER — (Cont'd)

EL-METER-06





CEL270M



CEL121A

Electrical Components Inspection

FUEL TANK GAUGE UNIT CHECK

- For removal, refer to FE section.

Check the resistance between terminals ① and ②.

With sub fuel tank

Ohmmeter (+)	Ohmmeter (−)	Float position mm (in)			Resistance value (Ω)
①	②	*3	Full	60 (2.36)	Approx. 4 - 6
		*2	1/2	173 (6.81)	27 - 35
		*1	Empty	272 (10.71)	78 - 85

*1 and *3: When float rod is in contact with stopper.

Without sub fuel tank

Ohmmeter (+)	Ohmmeter (−)	Float position mm (in)			Resistance value (Ω)
①	②	*3	Full	102 (4.02)	Approx. 4 - 6
		*2	1/2	266 (10.47)	27 - 35
		*1	Empty	444 (17.48)	78 - 85

*1 and *3: When float rod is in contact with stopper.

SUB FUEL TANK GAUGE UNIT CHECK

- For removal, refer to FE section.

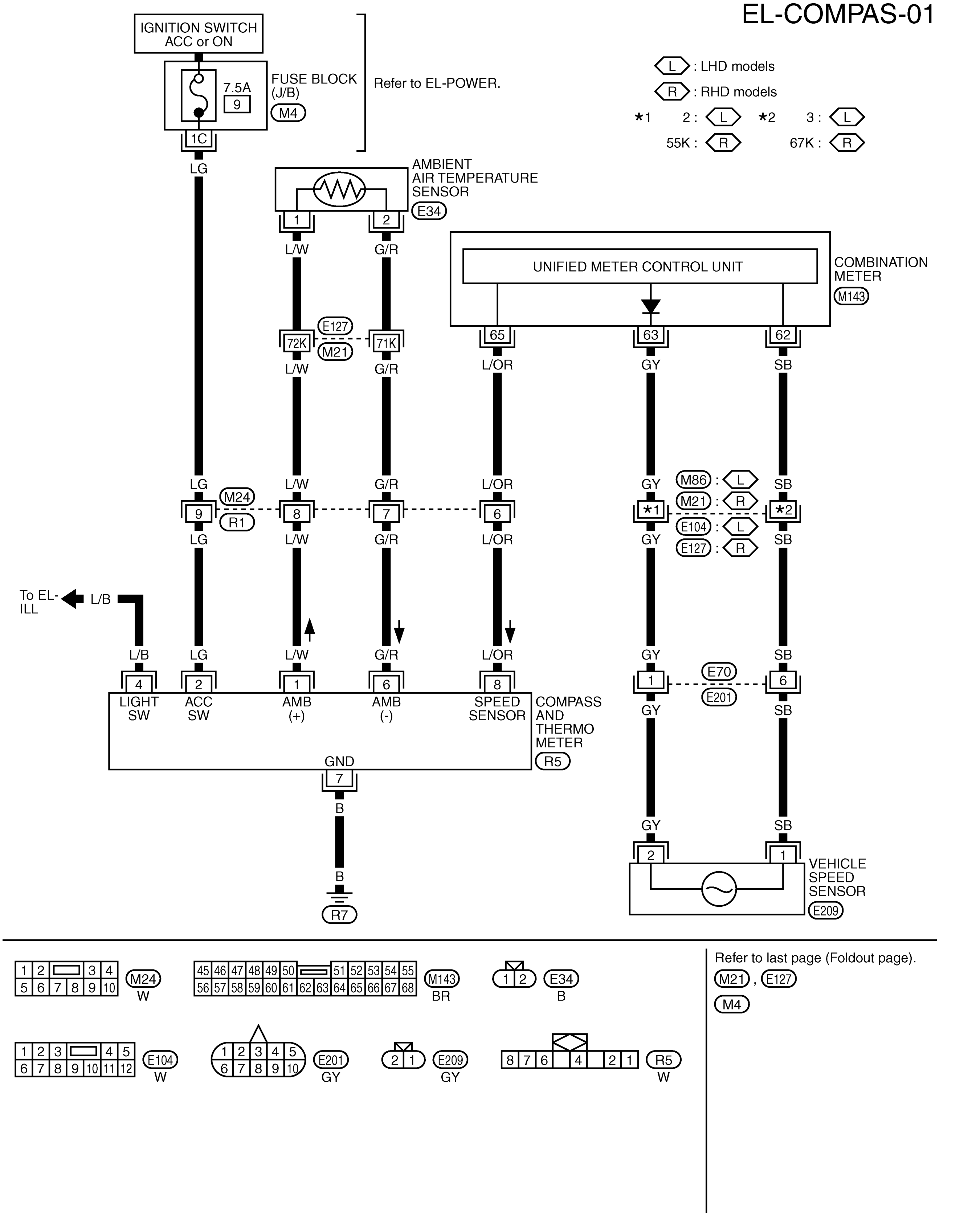
Check the resistance between terminals ① and ③.

Ohmmeter (+)	Ohmmeter (−)	Float position mm (in)			Resistance value (Ω)
①	③	*3	Full	102 (4.02)	Approx. 4 - 6
		*2	1/2	266 (10.47)	27 - 35
		*1	Empty	444 (17.48)	133 - 146

*1 and *3: When float rod is in contact with stopper.

Wiring Diagram — COMPAS —

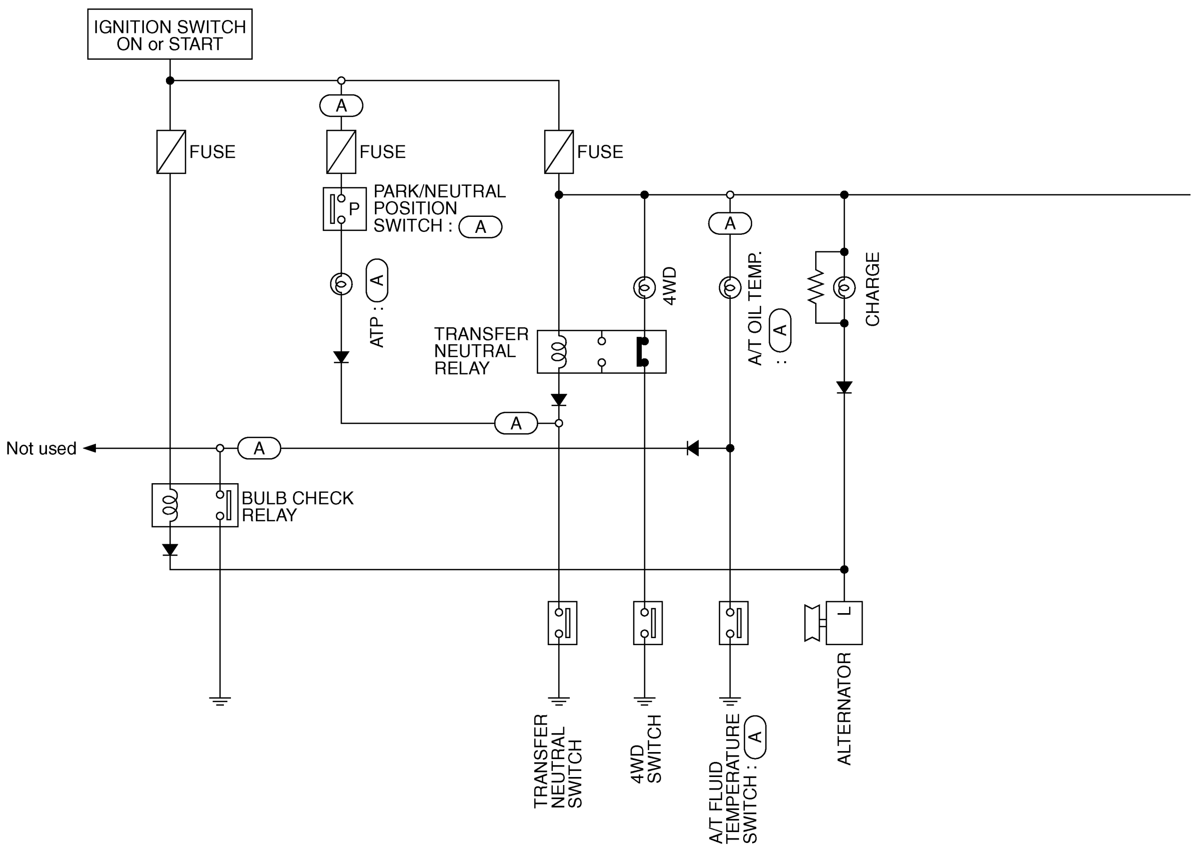
EL-COMPAS-01



TEL486M

NOTE

Schematic/For Europe



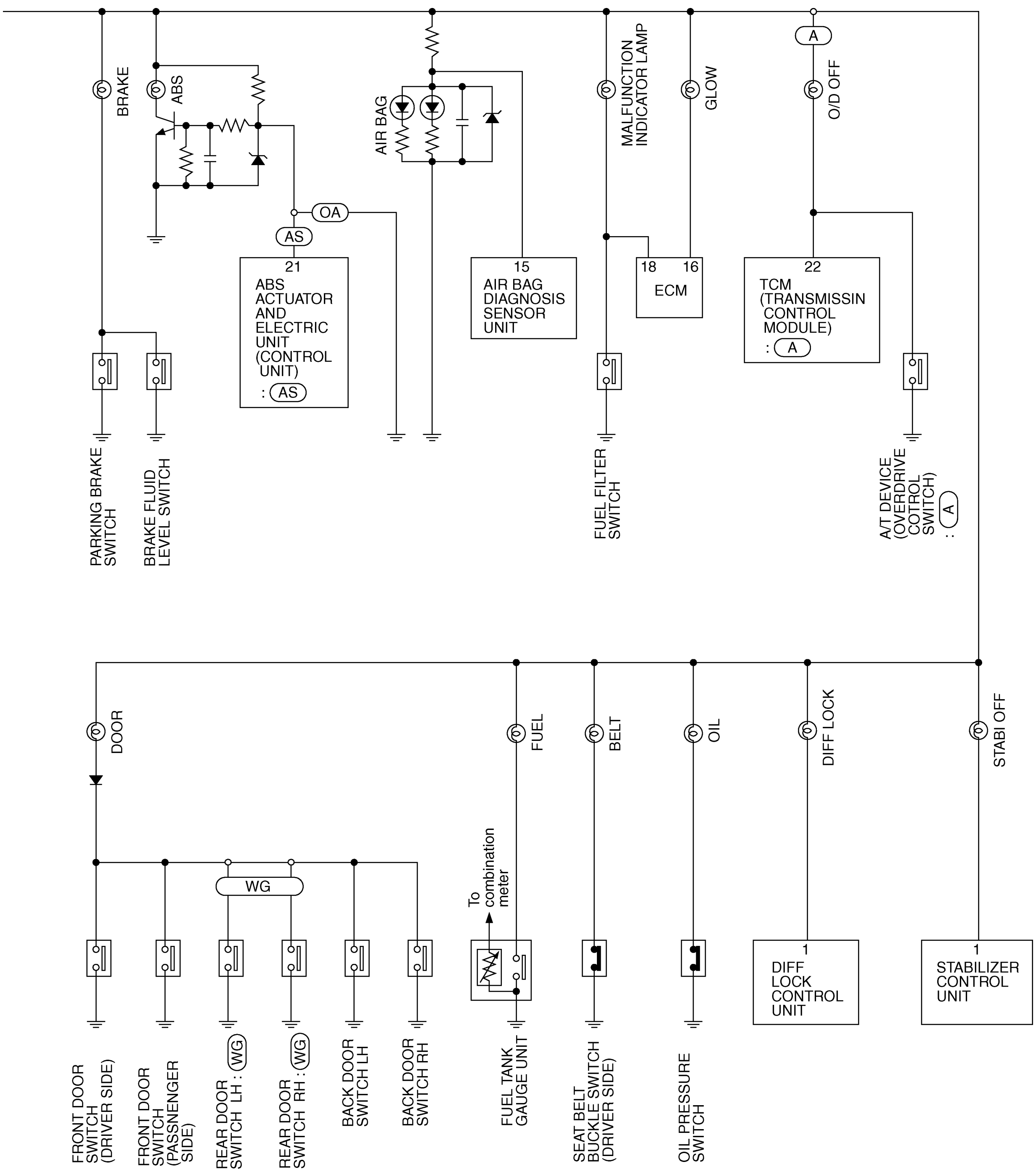
A : A/T models

WG : Wagon models

AS : With ABS

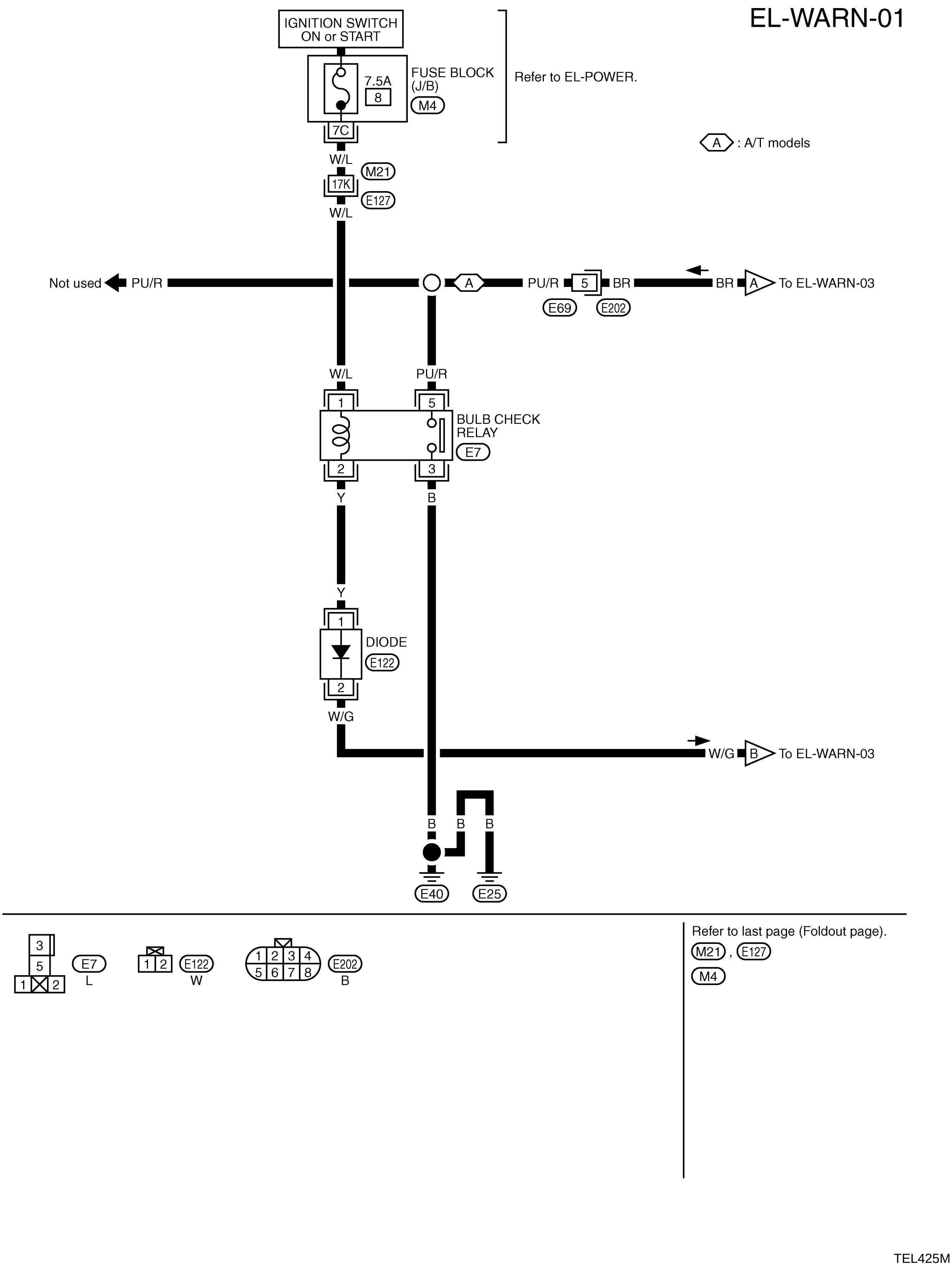
OA : Without ABS

TEL421M

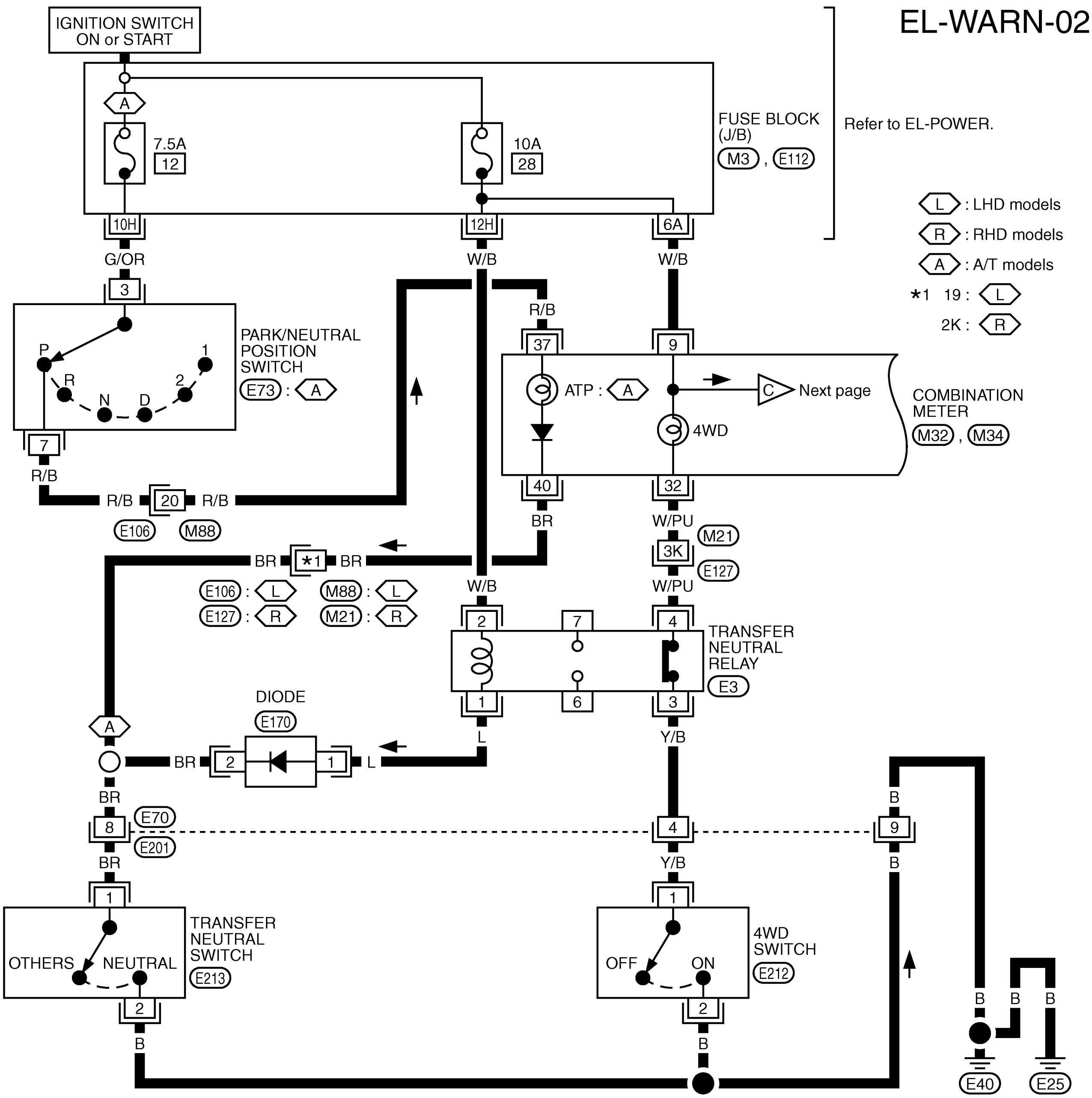

BRAKE
ABS
AIR BAG
MALFUNCTION INDICATOR LAMP
GLOW
A
O/D OFF
OA
AS
21
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) : AS
15
AIR BAG DIAGNOSIS SENSOR UNIT
18
16
ECM
22
TCM (TRANSMISSIN CONTROL MODULE) : A
PARKING BRAKE SWITCH
BRAKE FLUID LEVEL SWITCH
FUEL FILTER SWITCH
A/T DEVICE (OVERDRIVE COTROL SWITCH) : A
DOOR
FUEL
BELT
OIL
DIFF LOCK
STABI OFF
WG
To combination meter
1
DIFF LOCK CONTROL UNIT
1
STABILIZER CONTROL UNIT
FRONT DOOR SWITCH (DRIVER SIDE)
FRONT DOOR SWITCH (PASSNENGER SIDE)
REAR DOOR SWITCH LH : WG
REAR DOOR SWITCH RH : WG
BACK DOOR SWITCH LH
BACK DOOR SWITCH RH
FUEL TANK GAUGE UNIT
SEAT BELT BUCKLE SWITCH (DRIVER SIDE)
OIL PRESSURE SWITCH

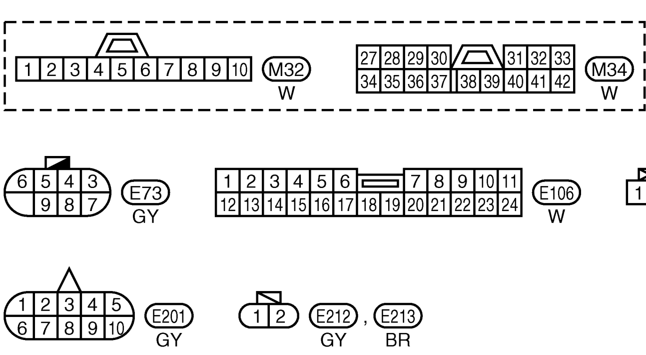
TEL422M

Wiring Diagram — WARN —/For Europe



Wiring Diagram — WARN —/For Europe (Cont'd)



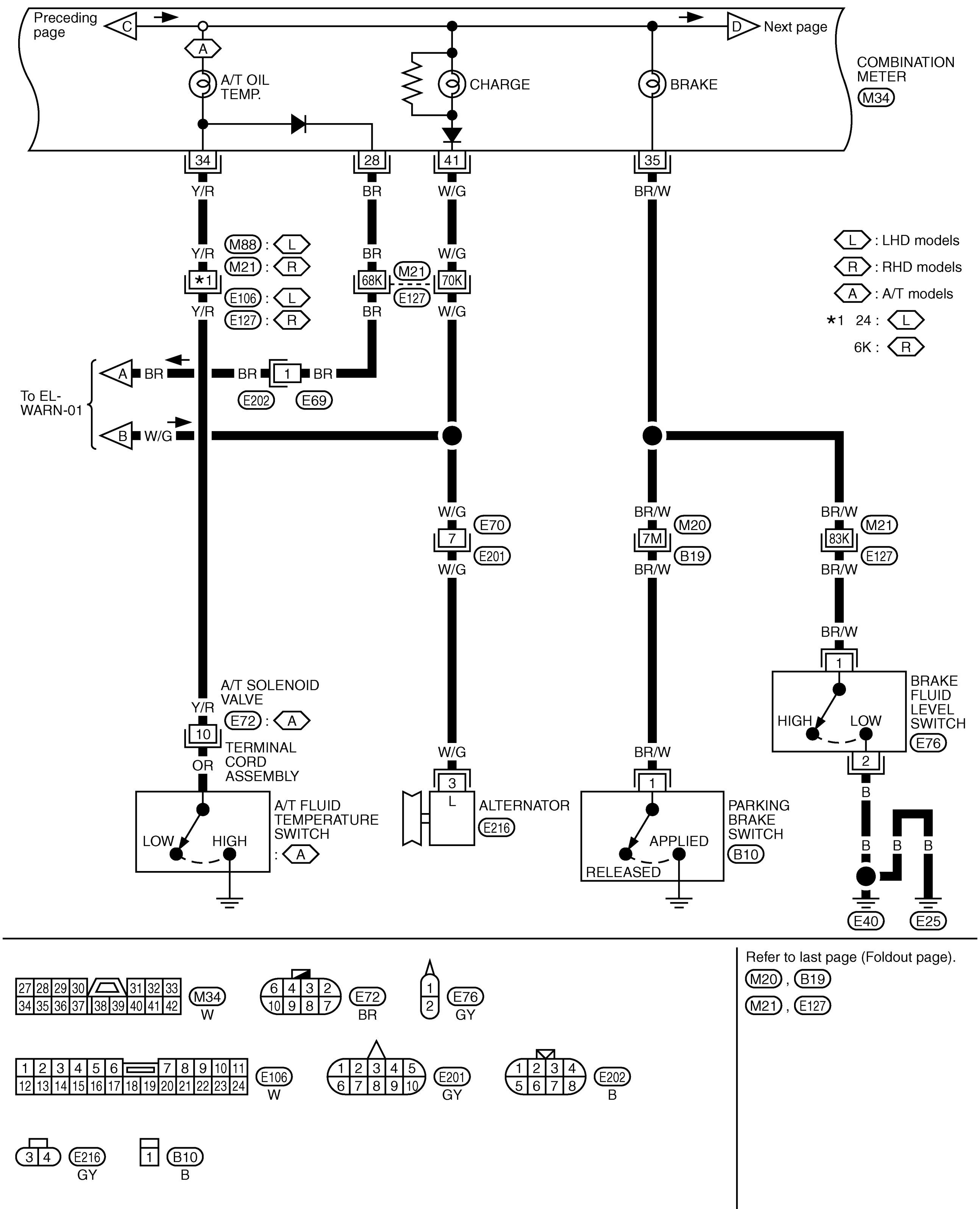


Refer to last page (Foldout page).
M21 , E127
M3
E112

TEL620M

Wiring Diagram — WARN —/For Europe (Cont'd)

EL-WARN-03



Refer to last page (Foldout page).

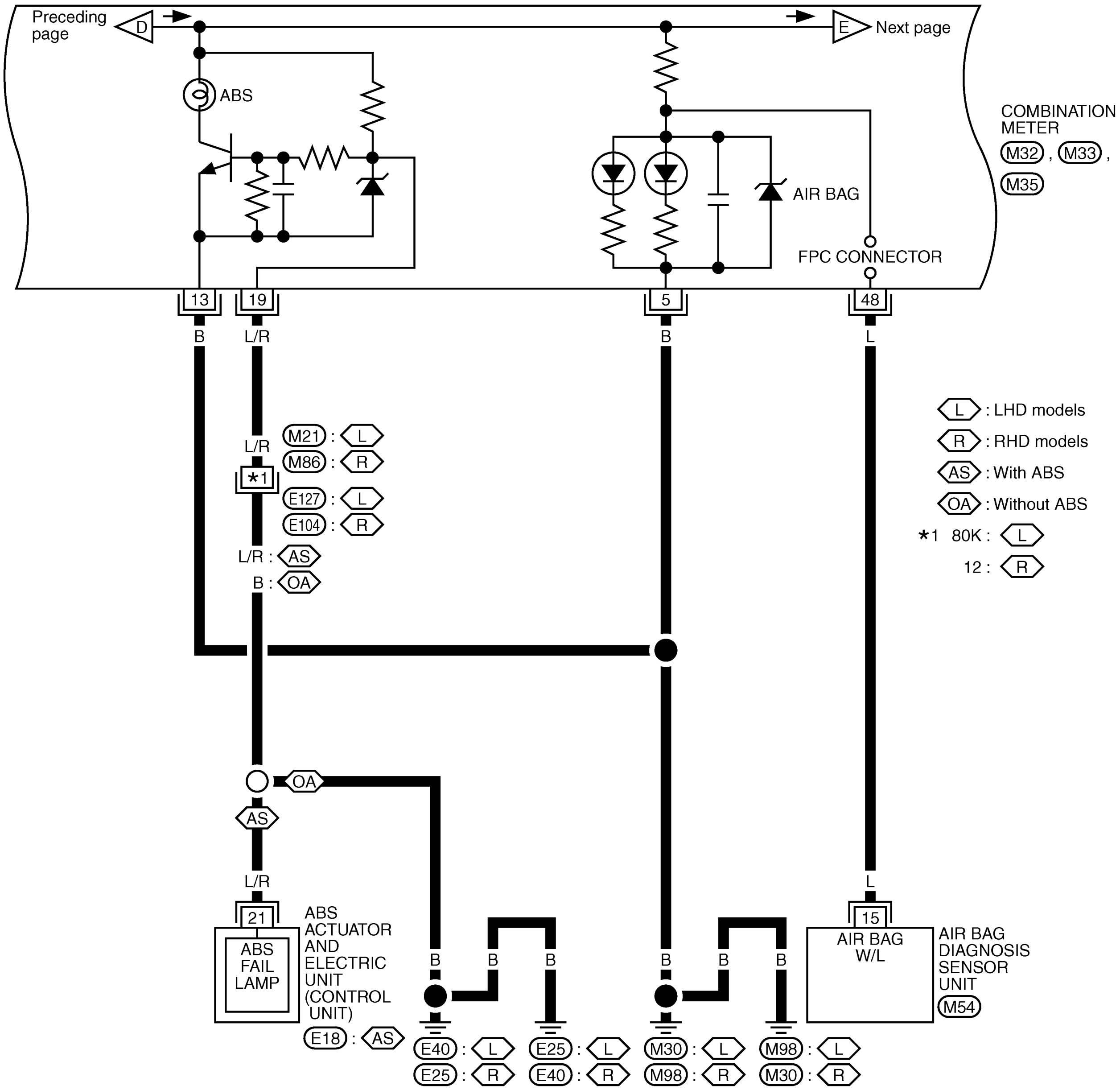
M20, B19

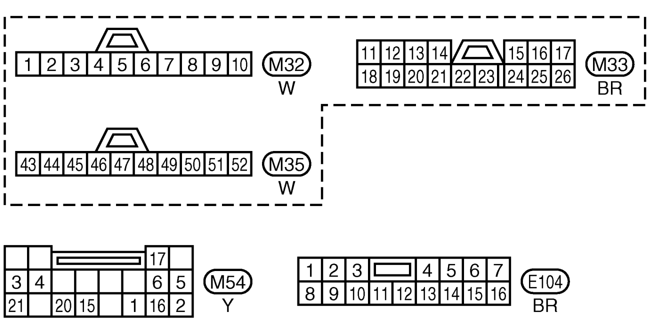
M21, E127

TEL427M

Wiring Diagram — WARN —/For Europe (Cont'd)

EL-WARN-04



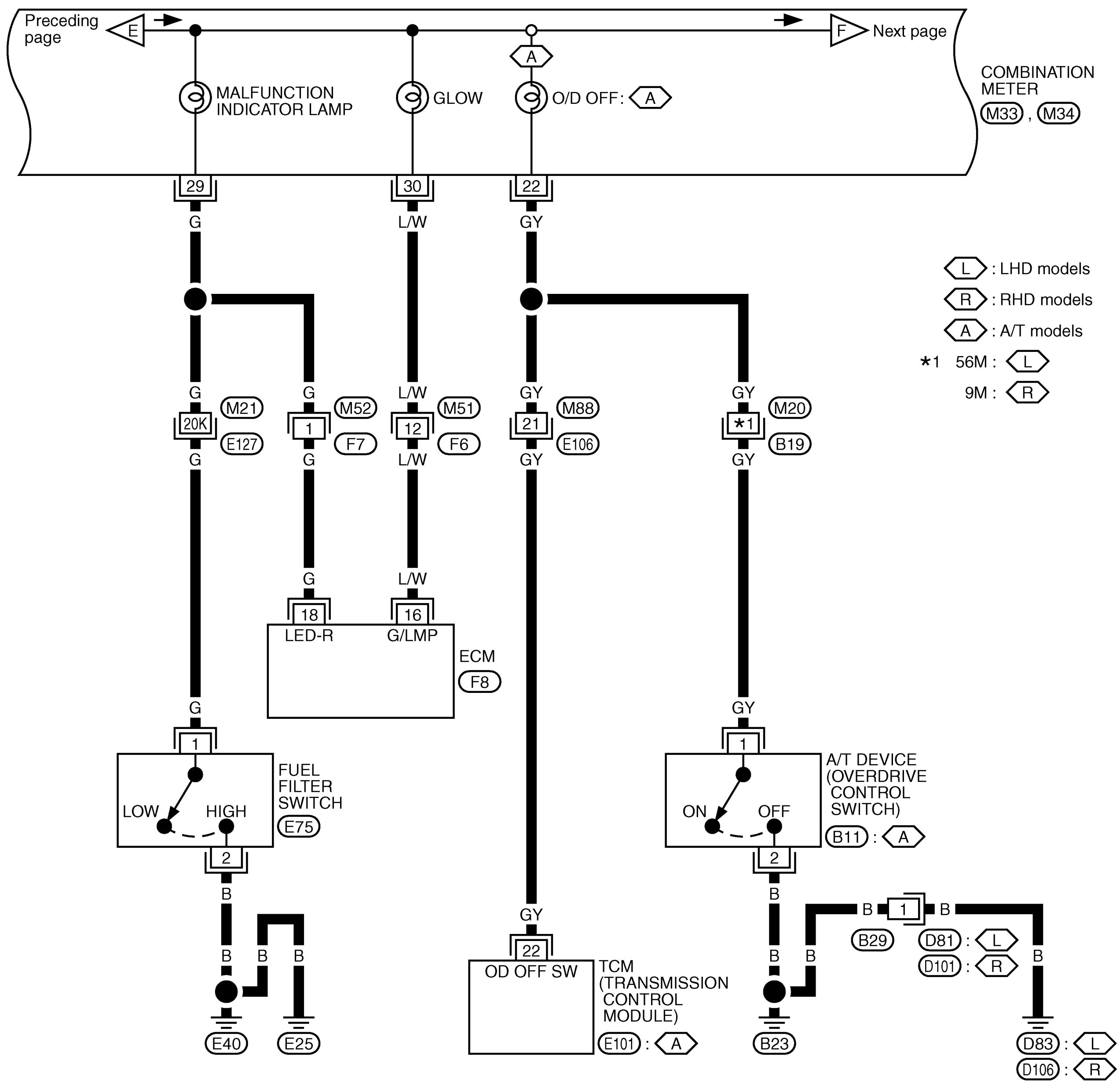


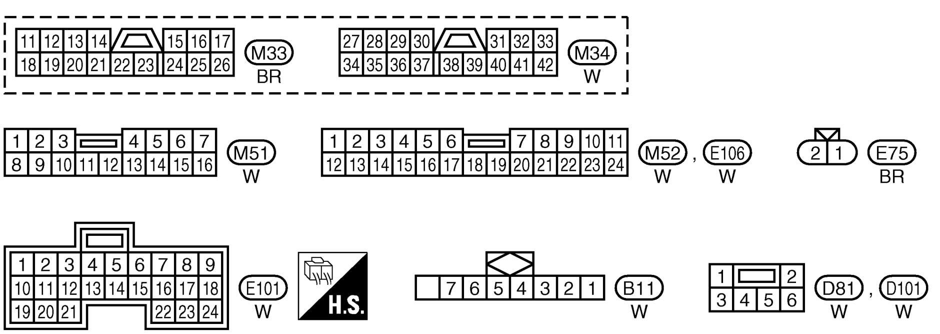
Refer to last page (Foldout page).
M21, E127
E18

TEL428M

Wiring Diagram — WARN —/For Europe (Cont'd)

EL-WARN-05





Refer to last page (Foldout page).

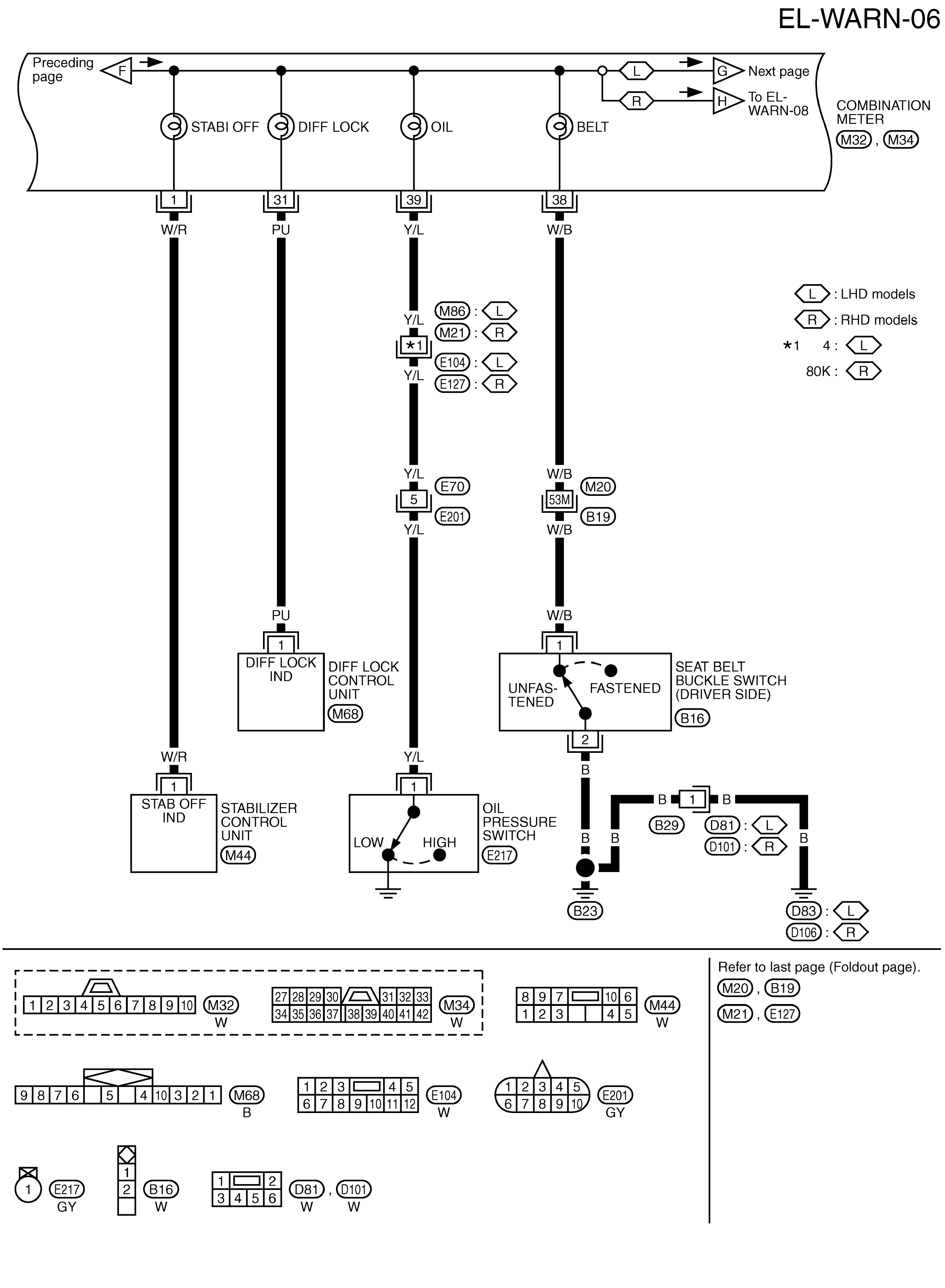
M20 , B19

M21 , E127

F8

TEL429M

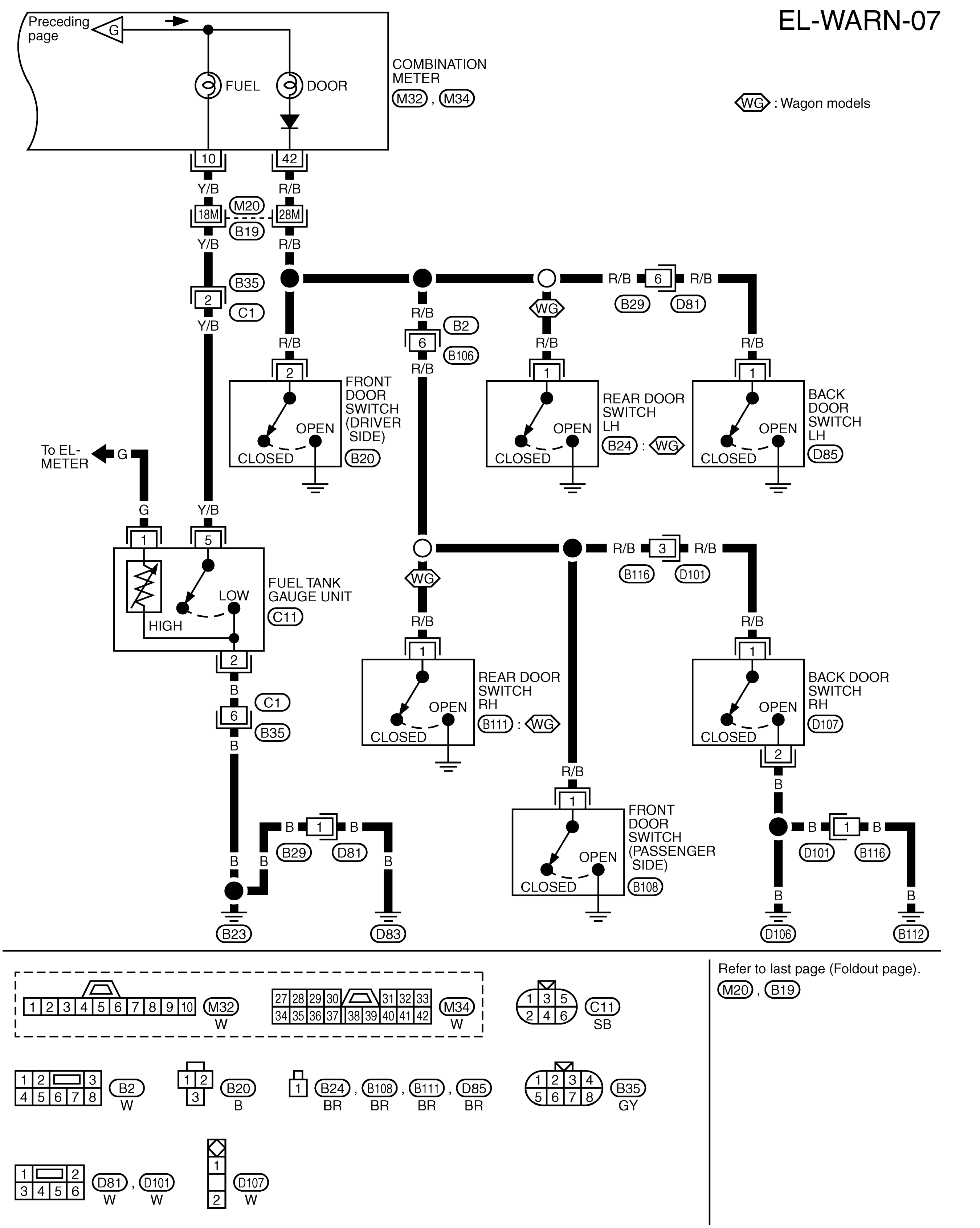
Wiring Diagram — WARN —/For Europe (Cont'd)



TEL430M

Wiring Diagram — WARN —/For Europe (Cont'd)

LHD MODELS

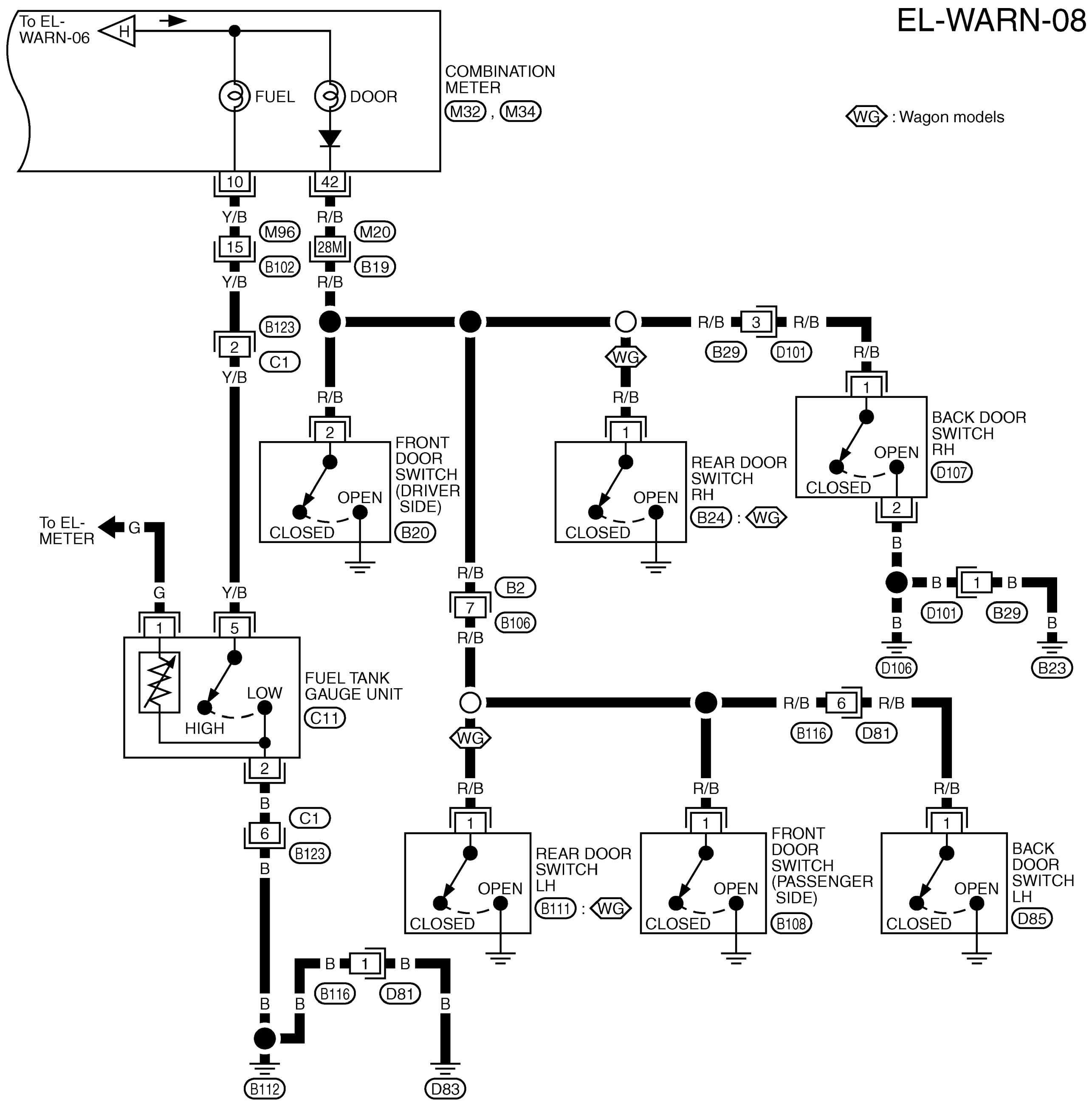


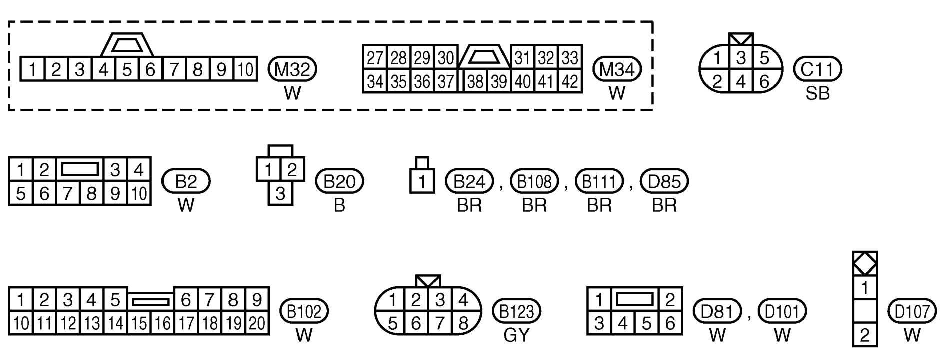
Refer to last page (Foldout page).
M20 , B19

TEL431M

Wiring Diagram — WARN —/For Europe (Cont'd)

RHD MODELS

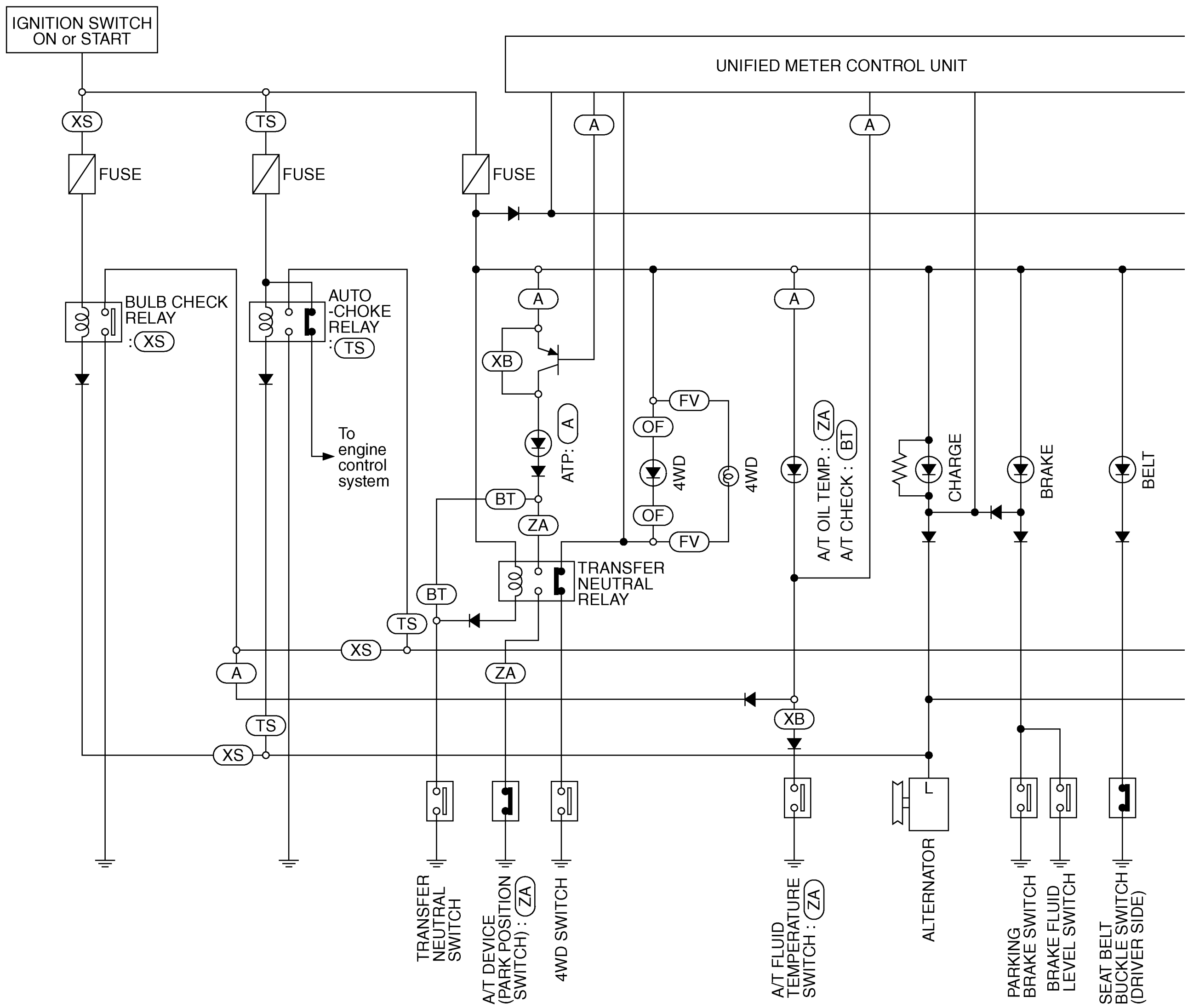




Refer to last page (Foldout page).
M20 , B19

TEL432M

Schematic/Except for Europe



- (ME): For the Middle East
- (A): A/T models
- (BE): TB48 engine models
- (XB): Except for TB48 engine models
- (BT): TB48 engine A/T models
- (ZA): ZD engine A/T models
- (TE): TB45E engine models
- (TS): TB45S engine models
- (SN): TB45S engine models with NATS
- (XS): Except for TB45S engine models
- (TD): TD engine models
- (TL): TD engine models for cold areas and Australia
- (XL): TD engine models except for cold areas and Australia
- (ZD): ZD engine models
- (EG): ECM control engine models
- (ET): ECM control engine models and TB45S engine models with NATS
- (D): Diesel engine models
- (WG): Wagon models

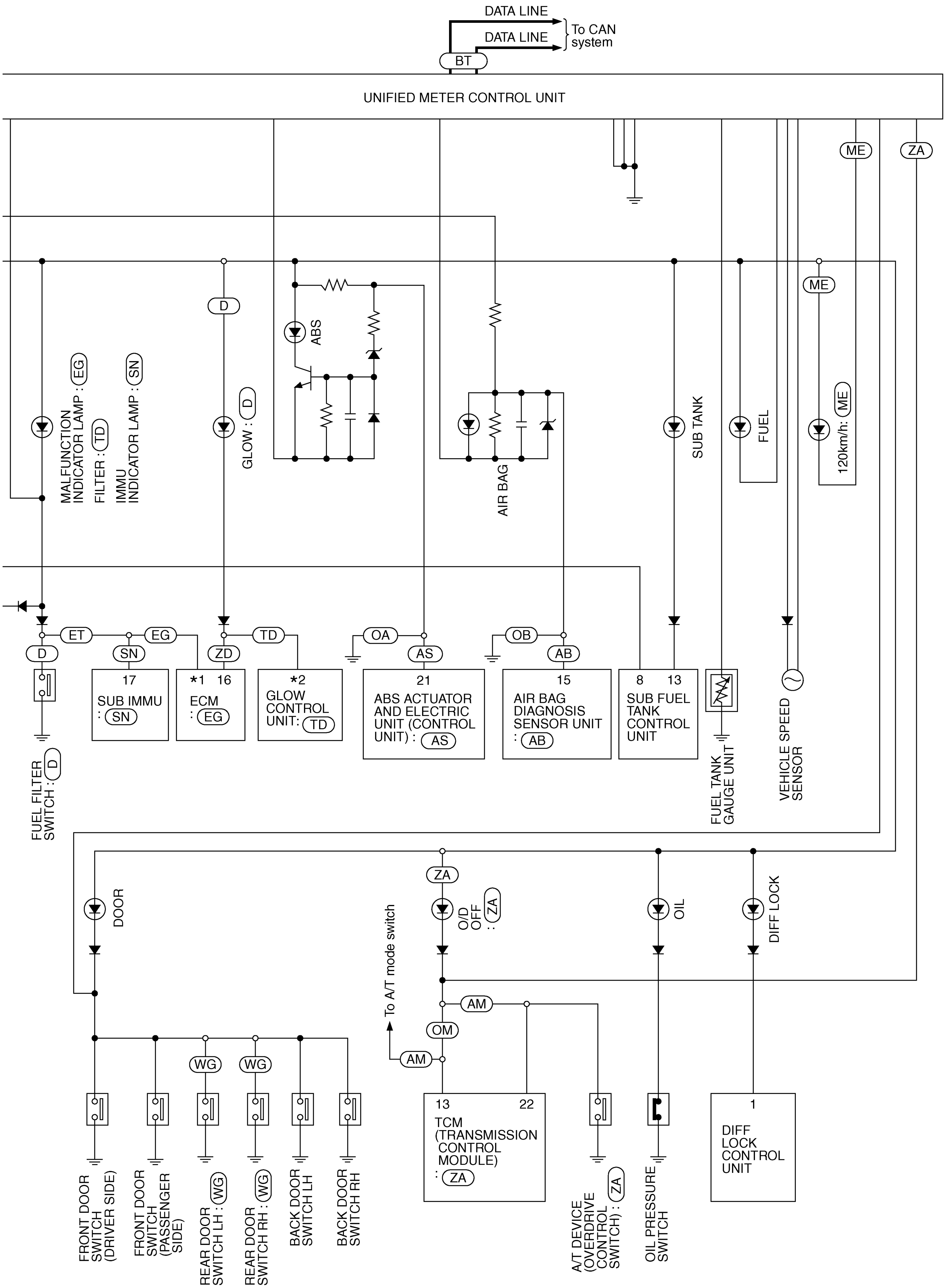
- (AB): With air bag
- (OB): Without air bag
- (AS): With ABS
- (OA): Without ABS
- (AM): With A/T mode switch
- (OM): Without A/T mode switch
- (FV): With fine vision meter
- (OF): Without fine vision meter

*1 18 : (ZD)
32 : (TE)
35 : (BE)

*2 3 : (XL)
14 : (TL)

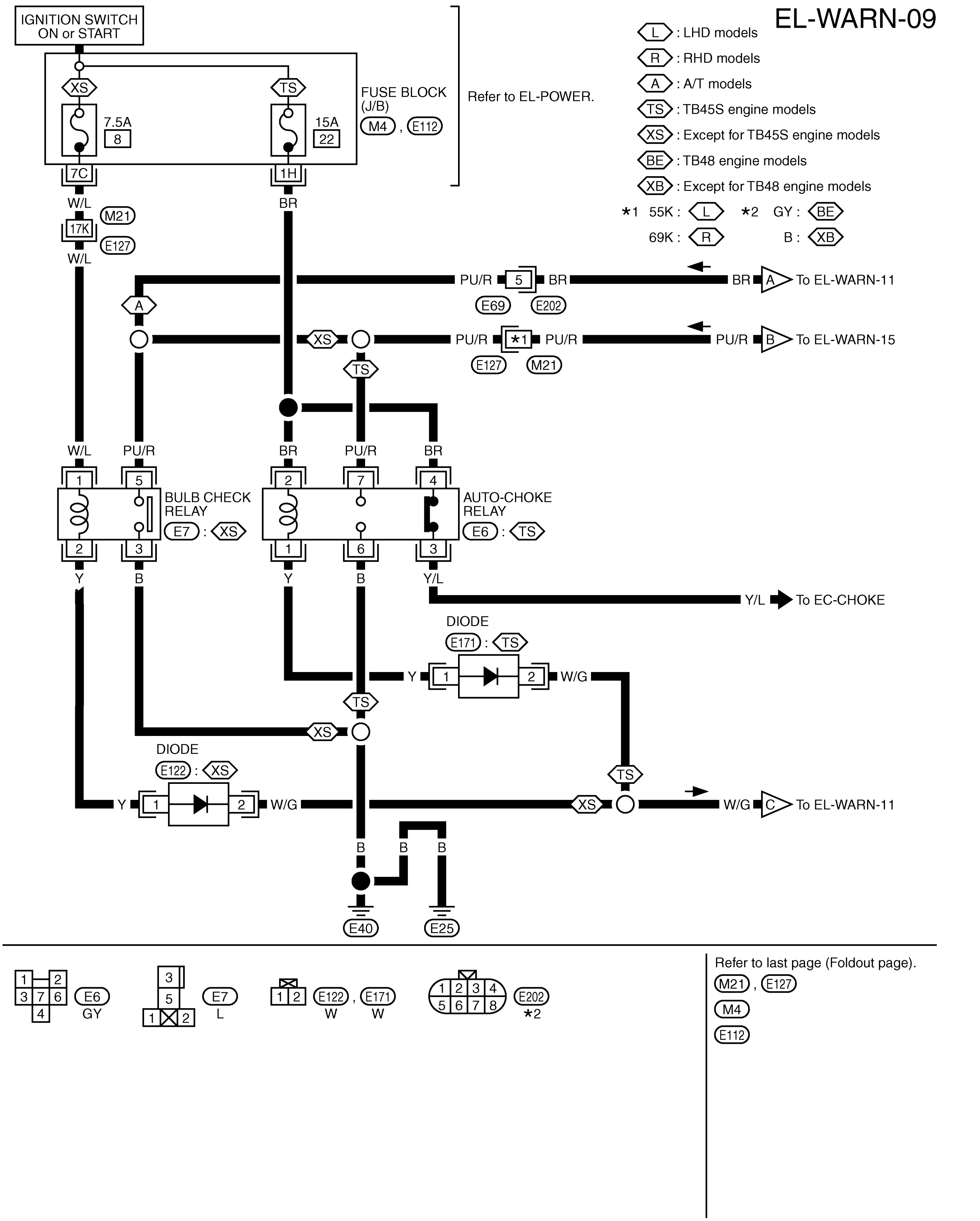
TEL537M

Schematic/Except for Europe (Cont'd)



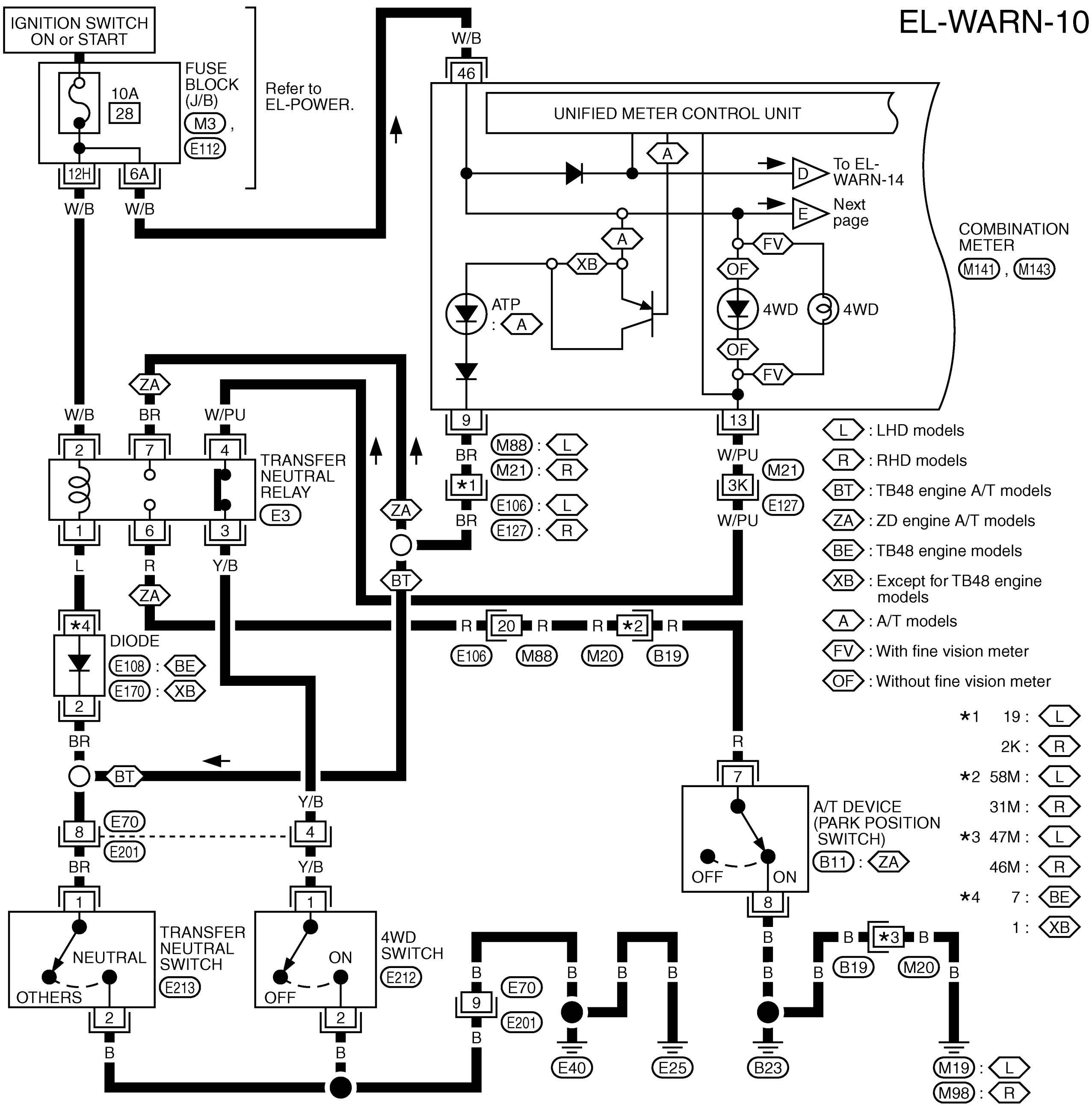
TEL538M

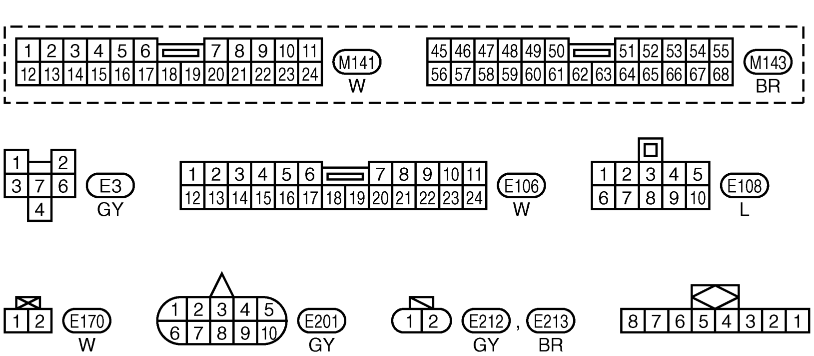
Wiring Diagram — WARN —/Except for Europe



TEL539M

Wiring Diagram — WARN —/Except for Europe (Cont’d)



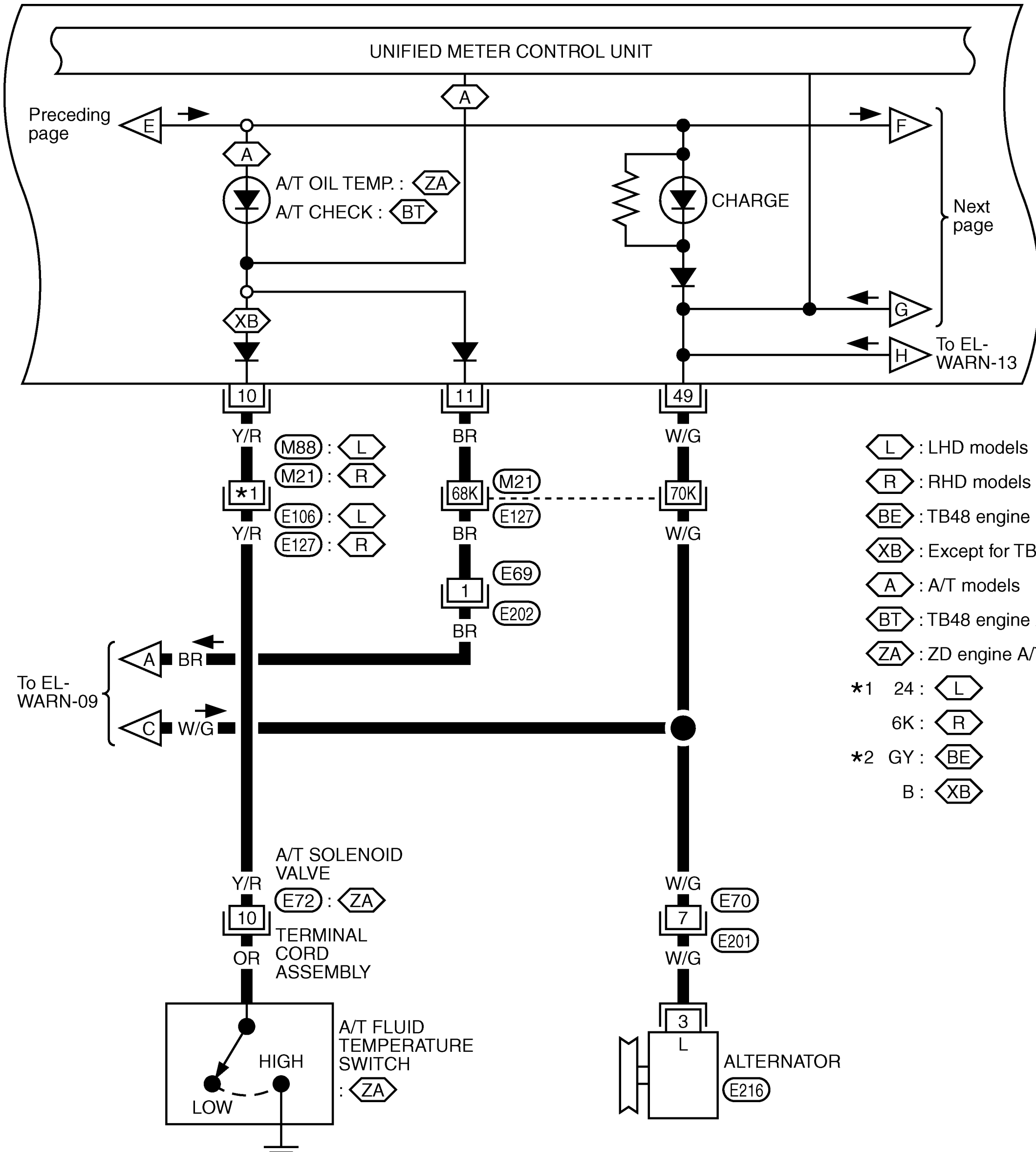


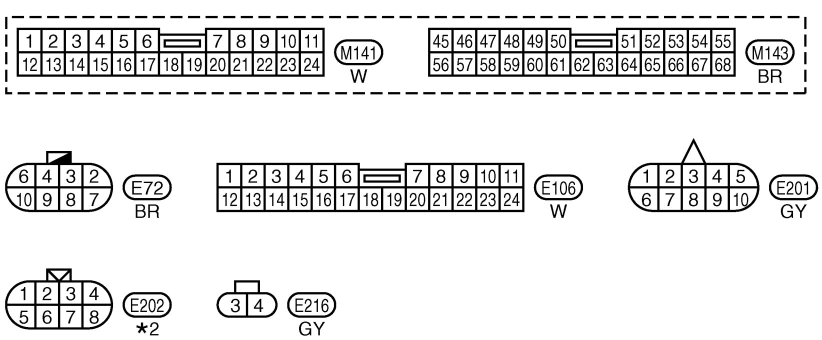
Refer to last page (Foldout page).
M20, B19
M21, E127
M3
E112

TEL540M

Wiring Diagram — WARN —/Except for Europe (Cont'd)

EL-WARN-11



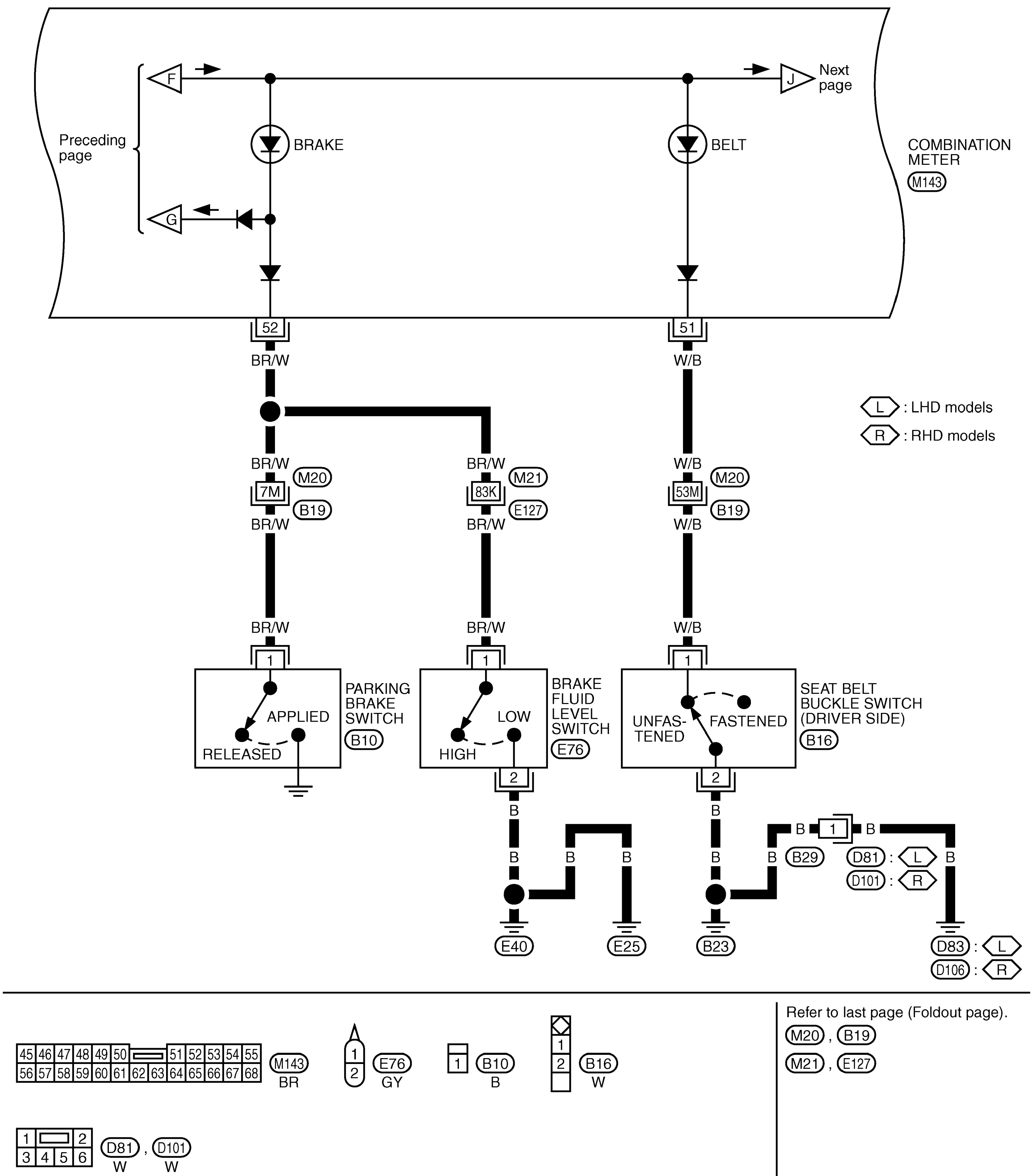


Refer to last page (Foldout page).
M21 , E127

TEL541M

Wiring Diagram — WARN —/Except for Europe (Cont'd)

EL-WARN-12

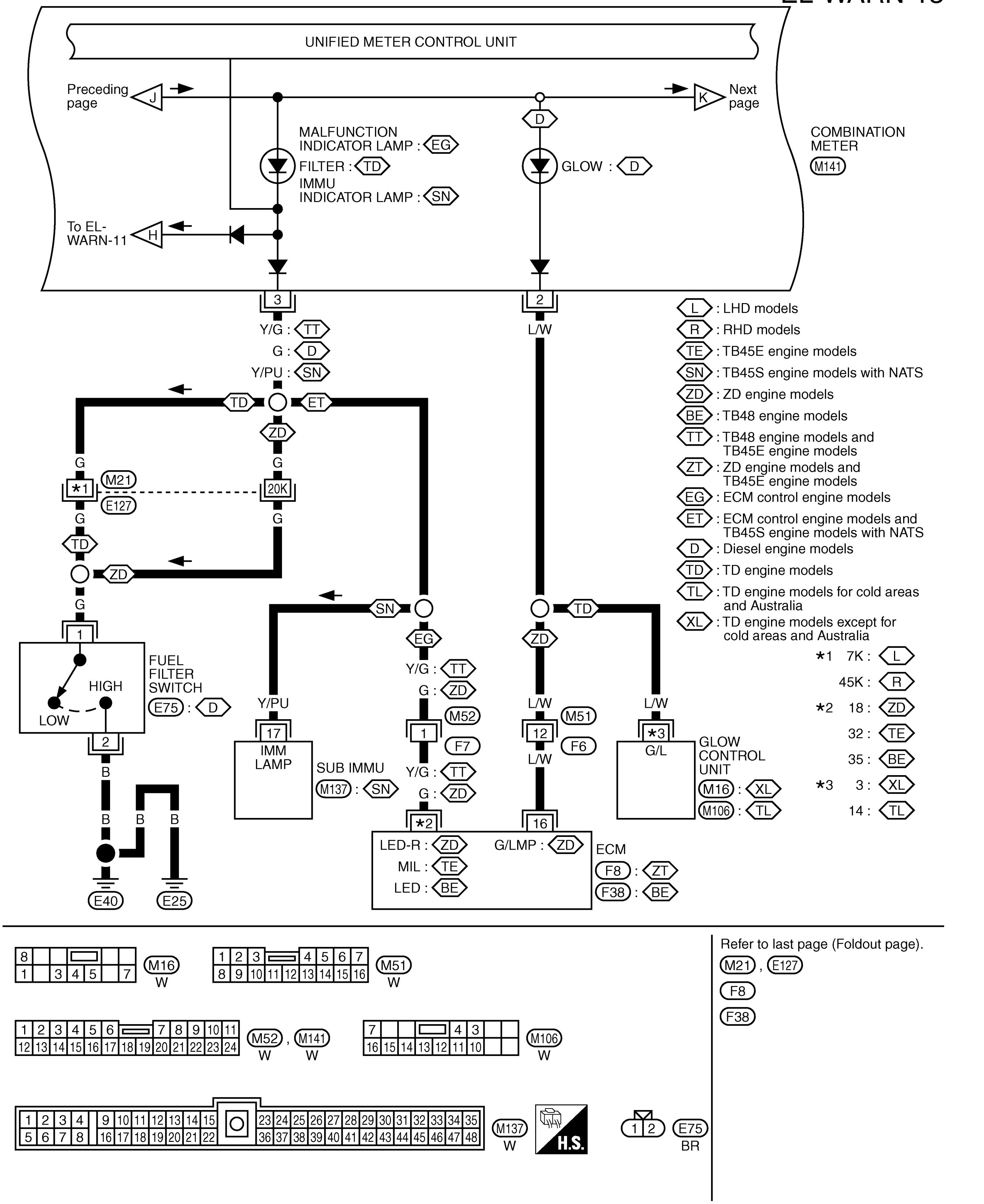


Refer to last page (Foldout page).
M20, B19
M21, E127

TEL436M

Wiring Diagram — WARN —/Except for Europe (Cont'd)

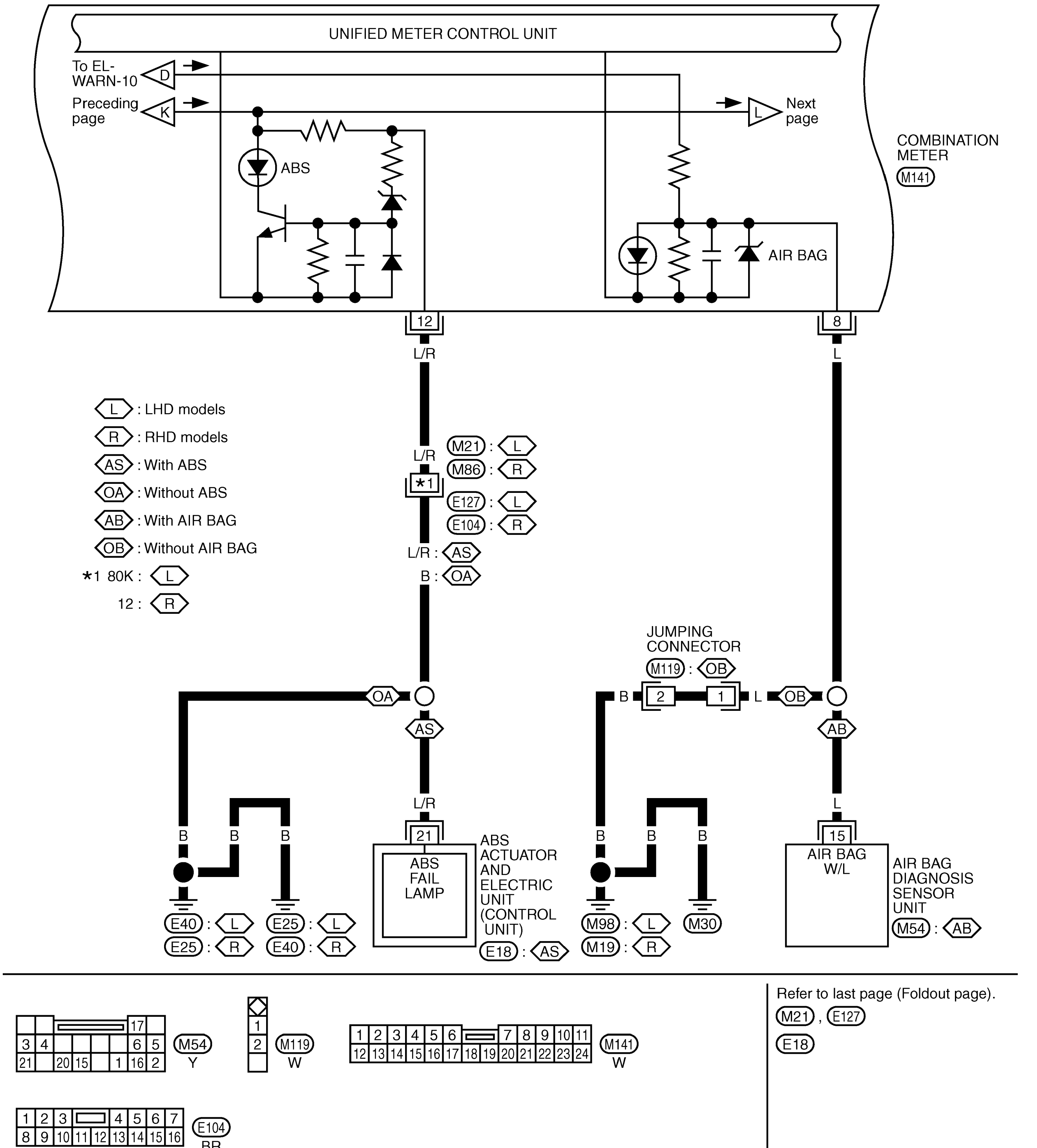
EL-WARN-13



TEL542M

Wiring Diagram — WARN —/Except for Europe (Cont'd)

EL-WARN-14

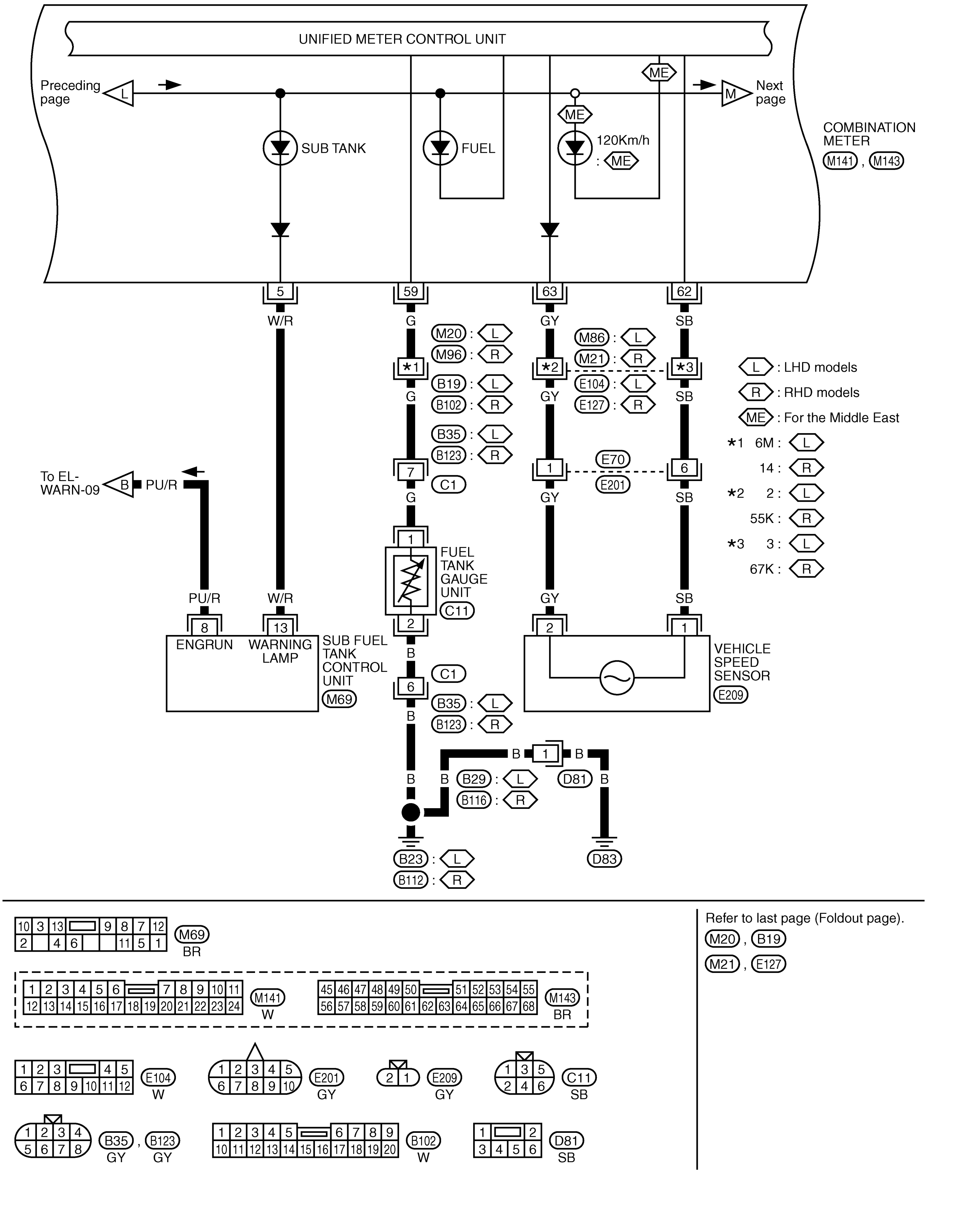


Refer to last page (Foldout page).
M21, E127
E18

TEL438M

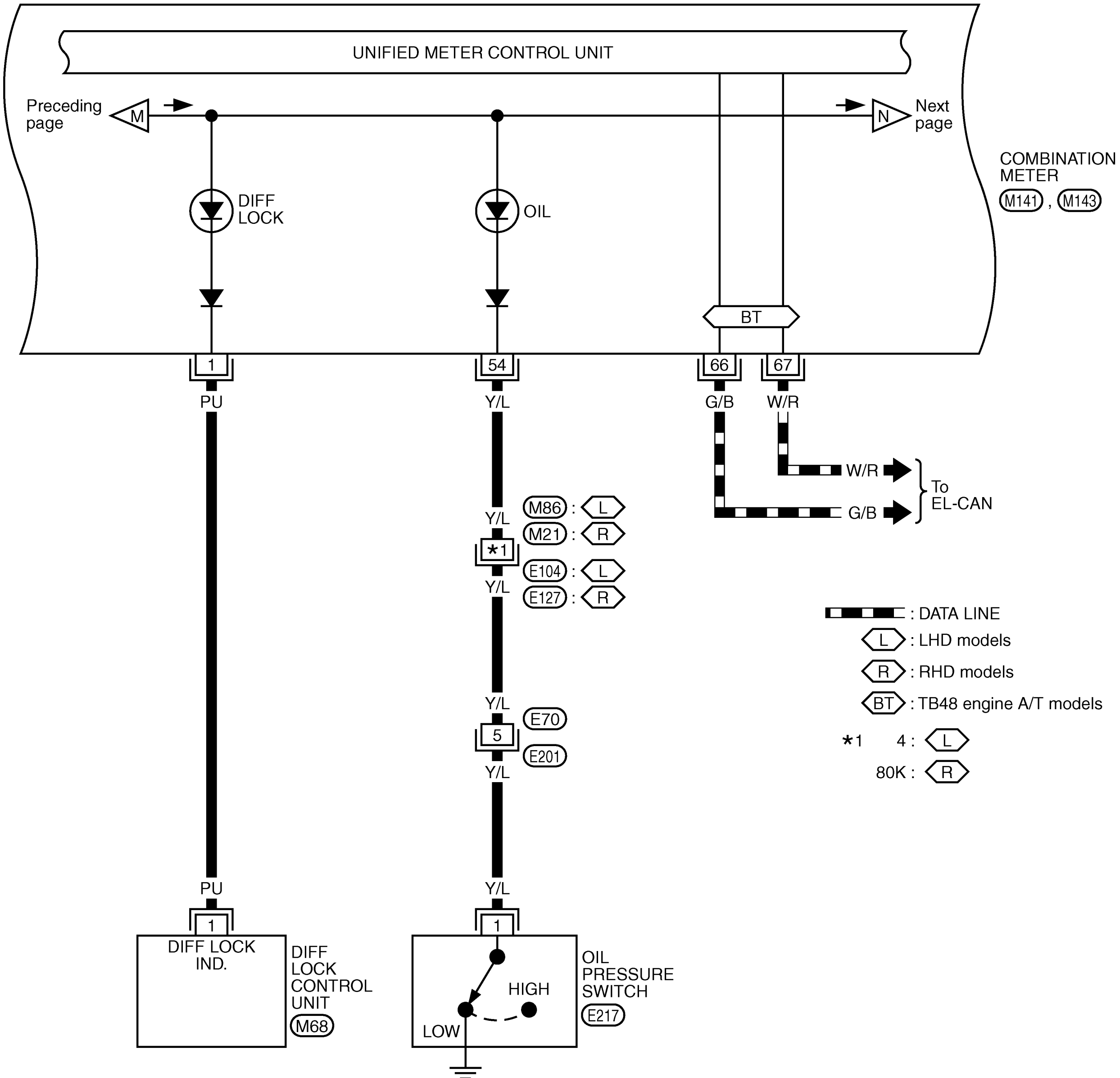
Wiring Diagram — WARN —/Except for Europe (Cont'd)

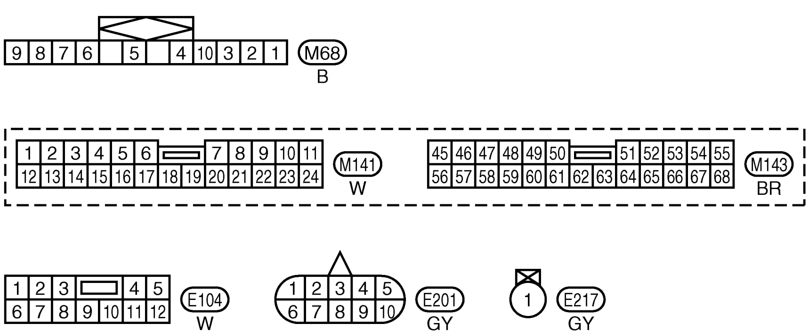
EL-WARN-15



Wiring Diagram — WARN —/Except for Europe (Cont'd)

EL-WARN-16



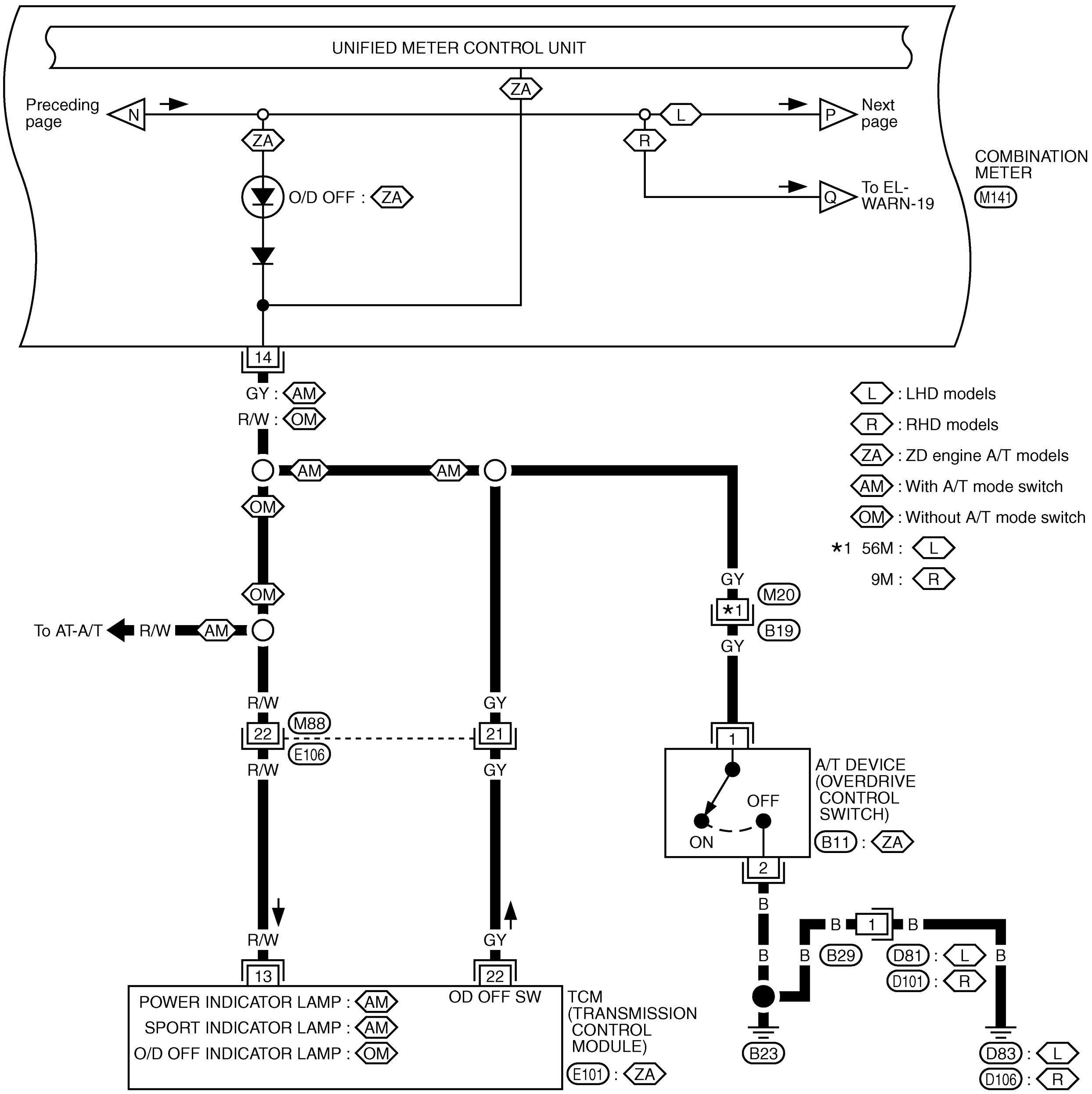


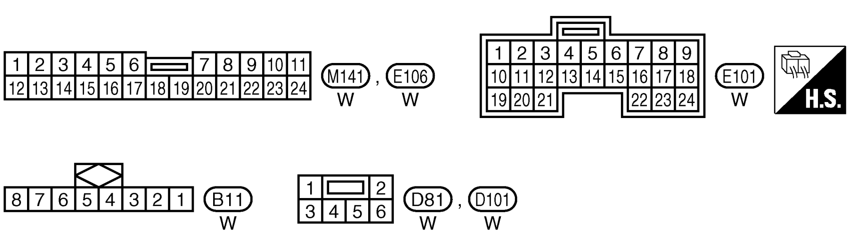
Refer to last page (Foldout page).
M21 , E127

TEL543M

Wiring Diagram — WARN —/Except for Europe (Cont'd)

EL-WARN-17





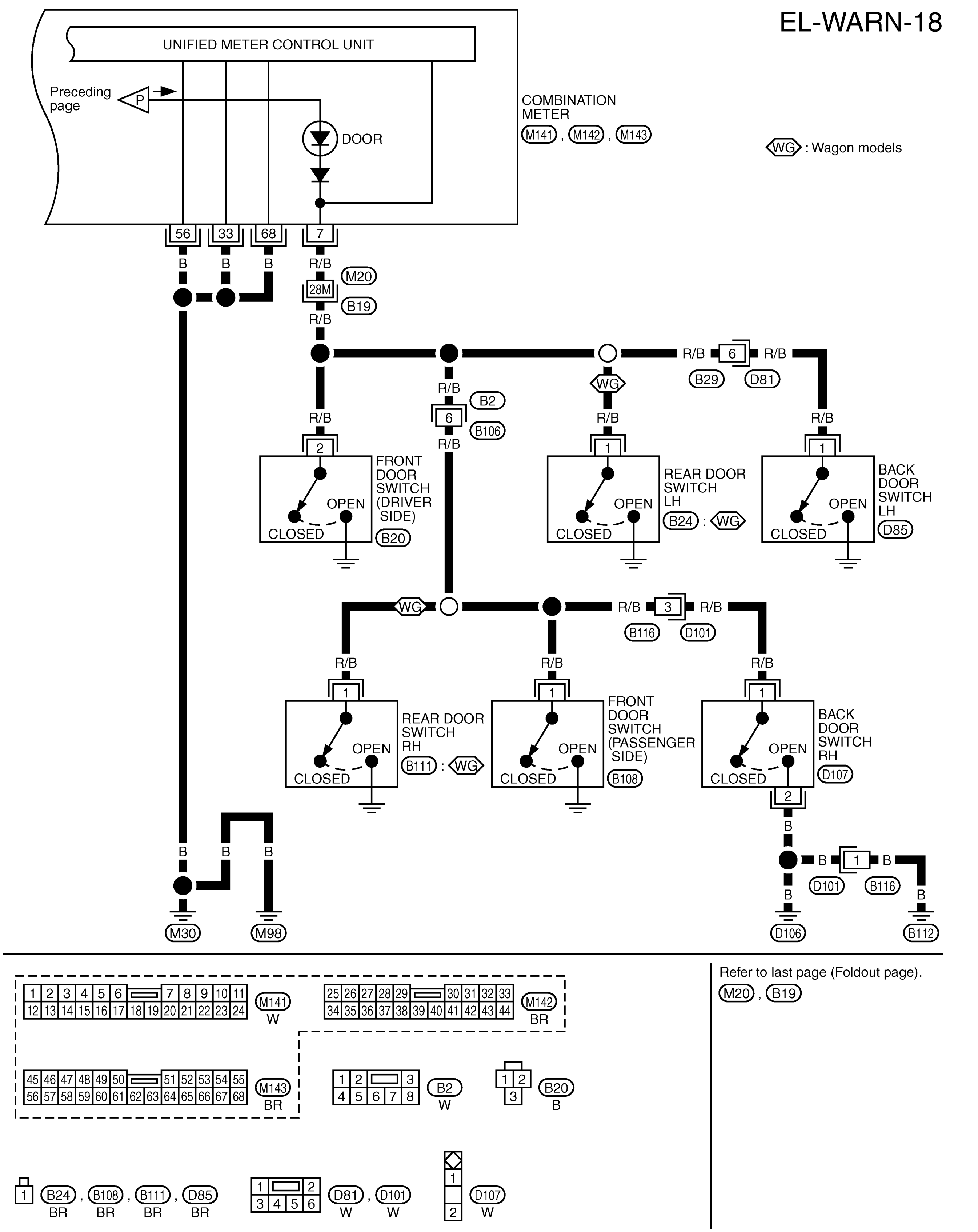
Refer to last page (Foldout page).

M20, B19

TEL544M

Wiring Diagram — WARN —/Except for Europe (Cont'd)

LHD MODELS

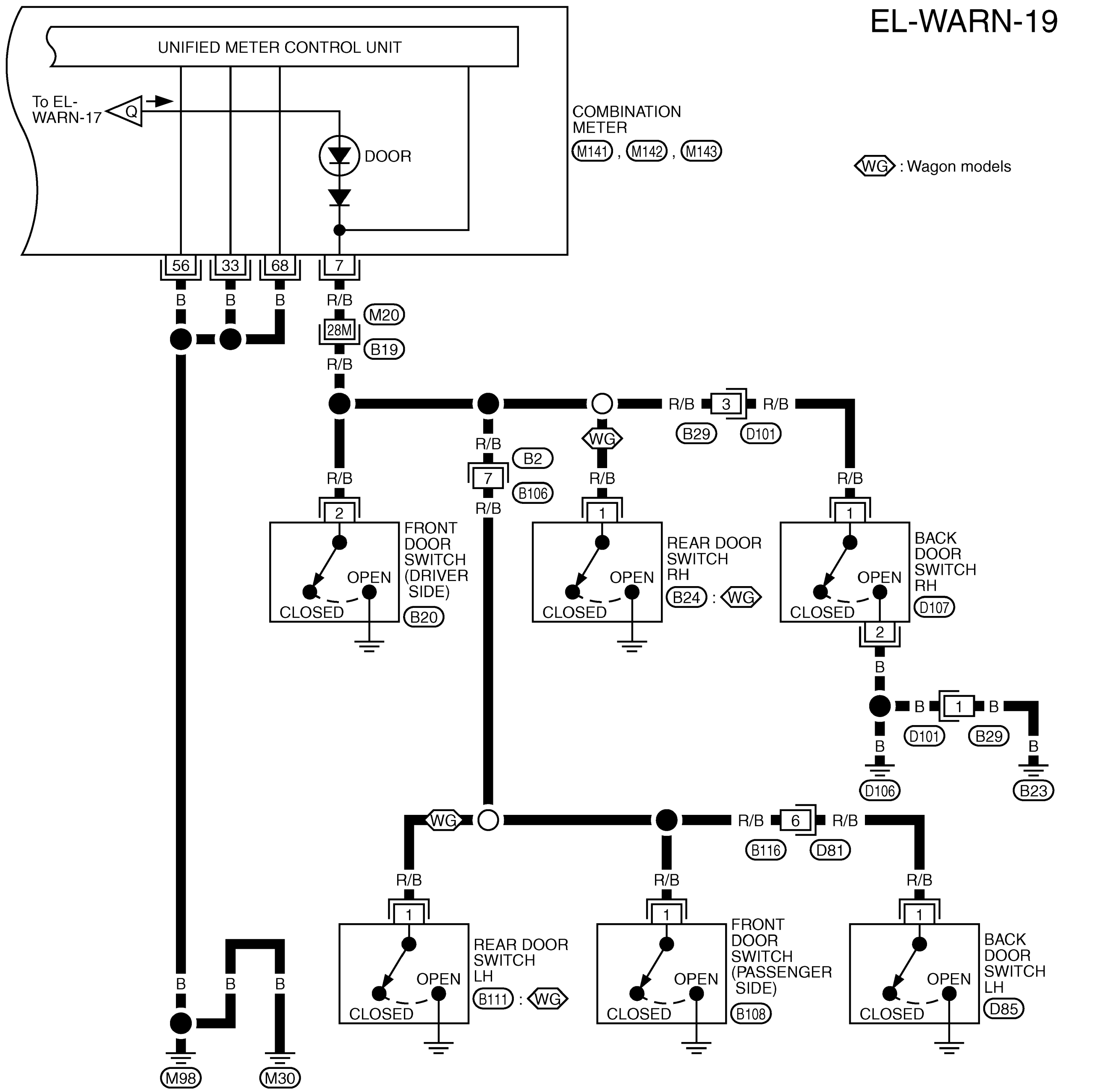


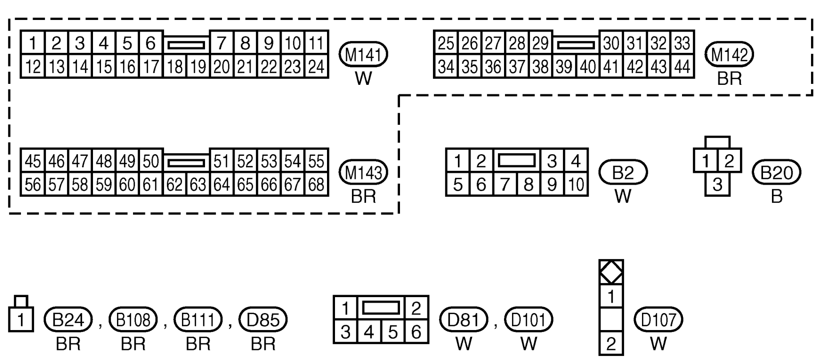
Refer to last page (Foldout page).
M20, B19

TEL442M

Wiring Diagram — WARN —/Except for Europe (Cont'd)

RHD MODELS

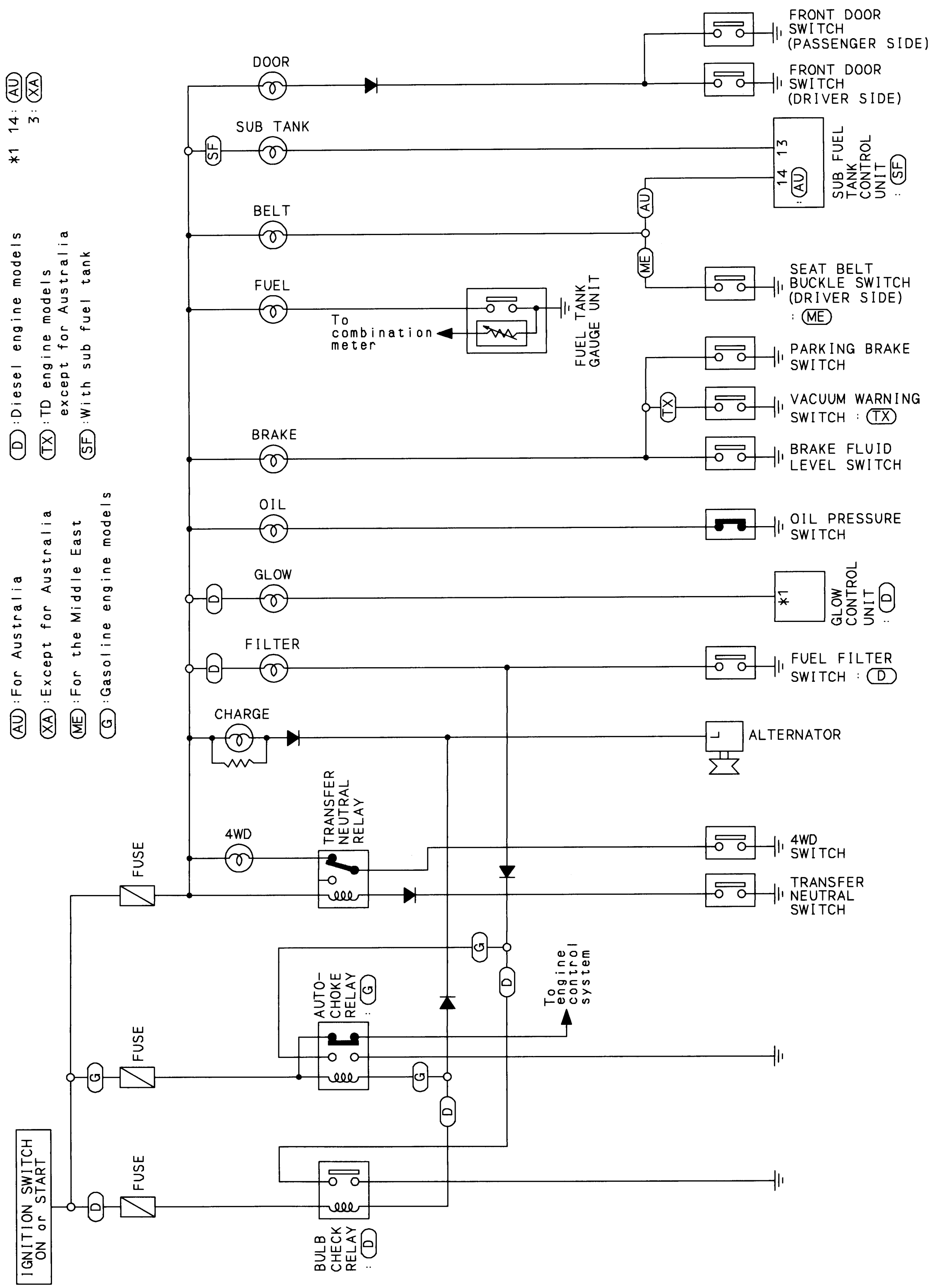




Refer to last page (Foldout page).
M20 , B19

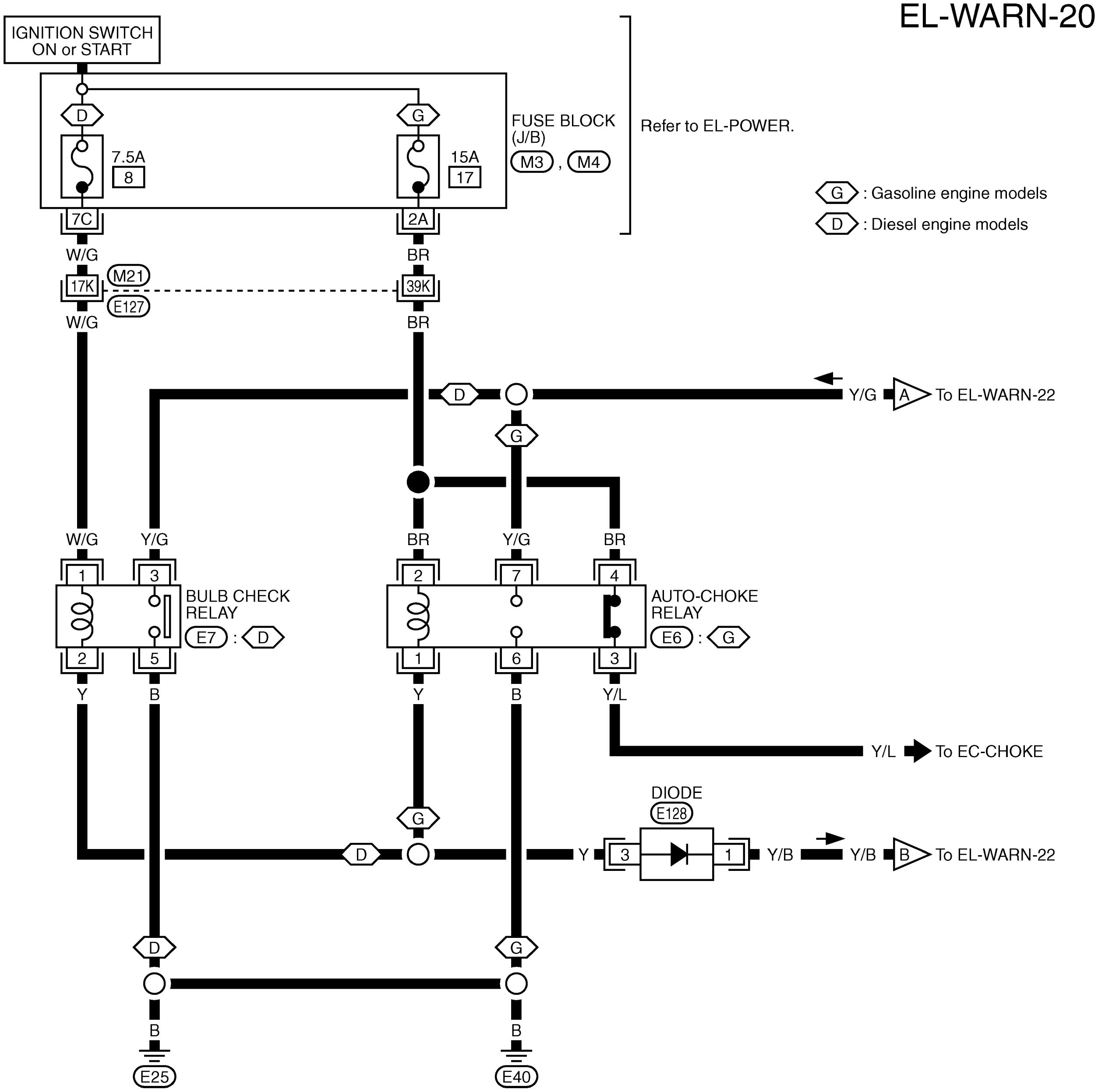
TEL443M

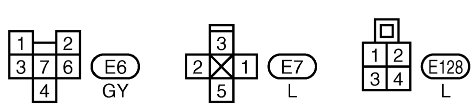
Schematic



TEL015M

Wiring Diagram — WARN —



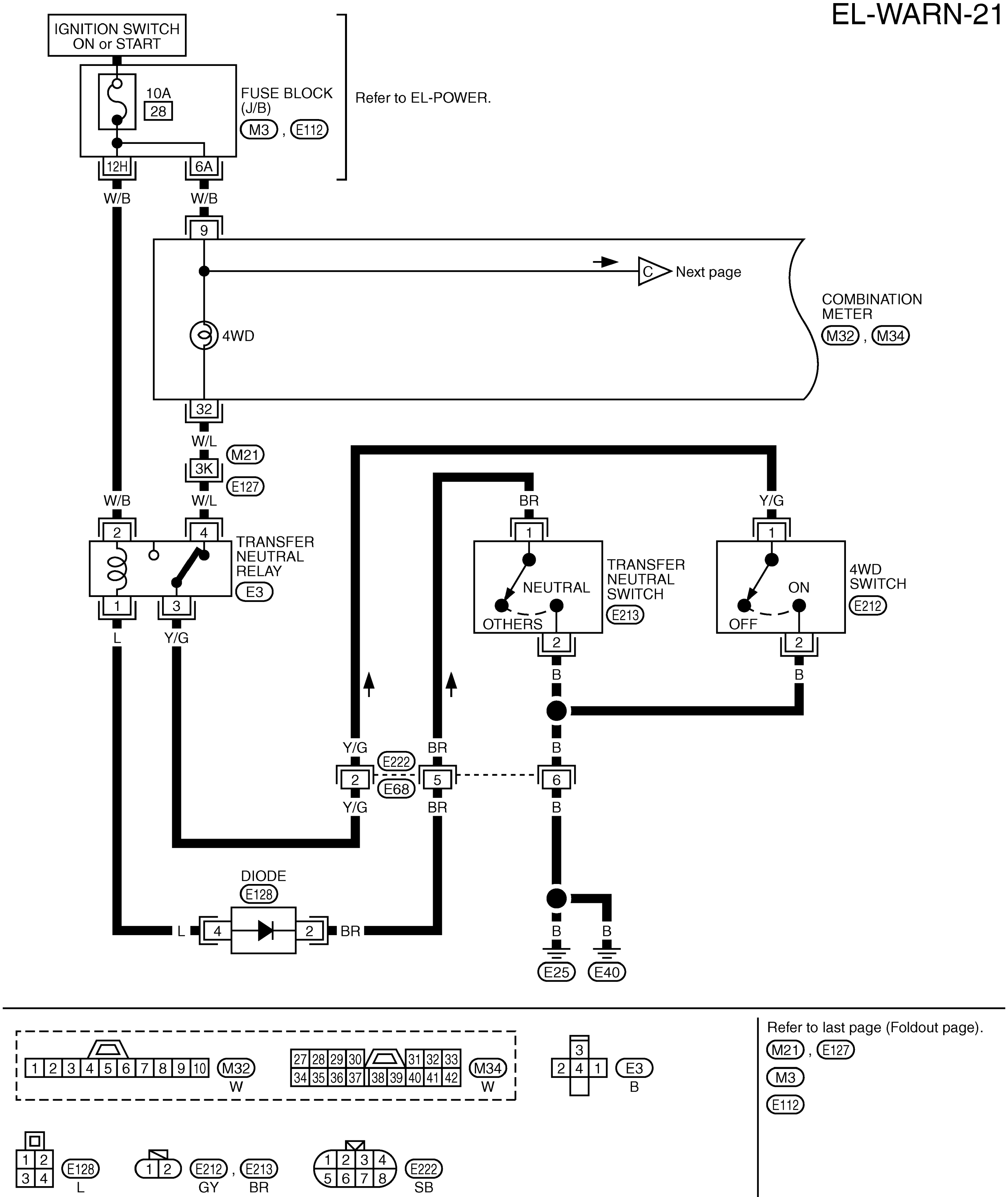


Refer to last page (Foldout page).
M21 , E127
M3
M4

TEL444M

Wiring Diagram — WARN — (Cont'd)

EL-WARN-21

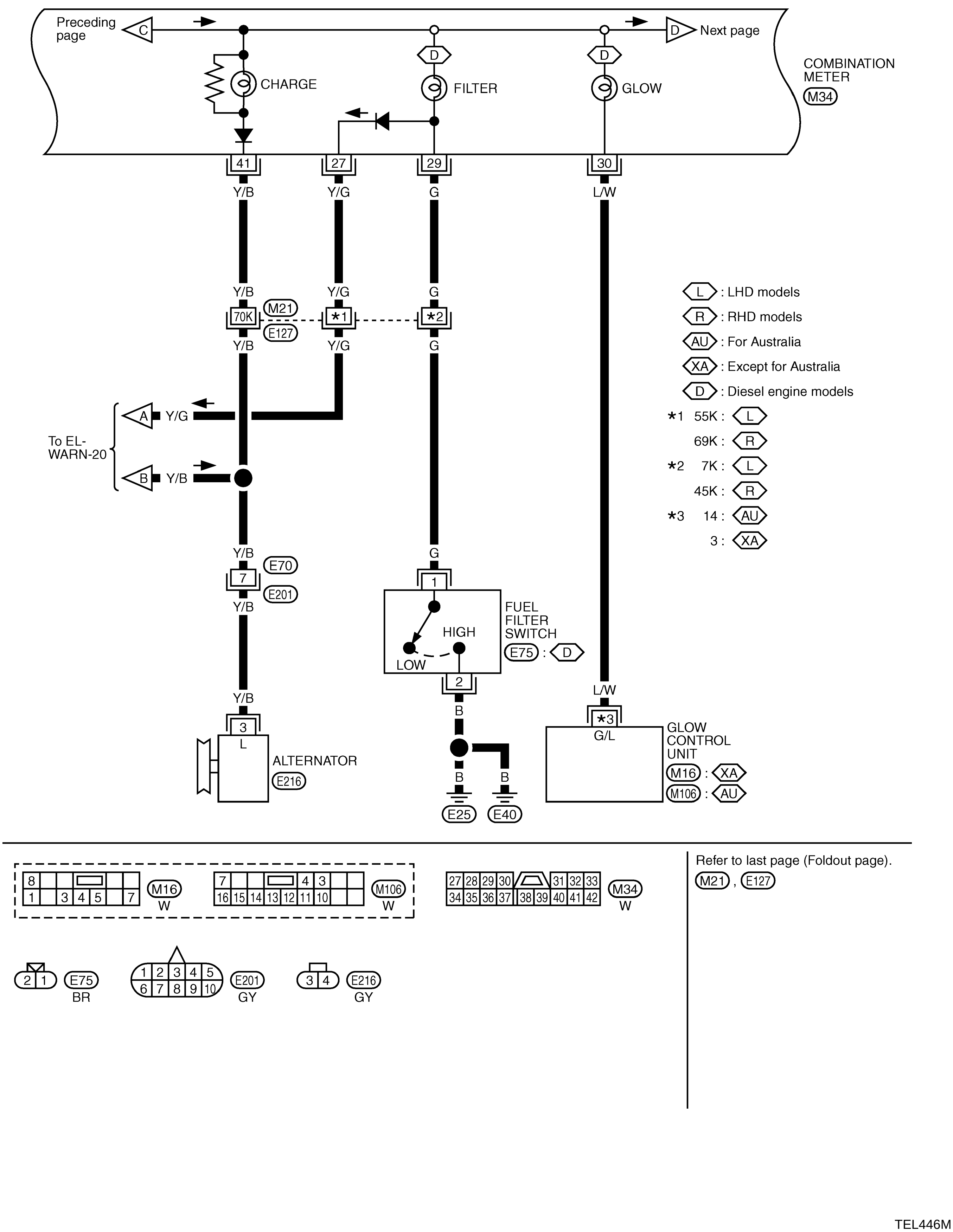


TEL445M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA **EL** SE IDX

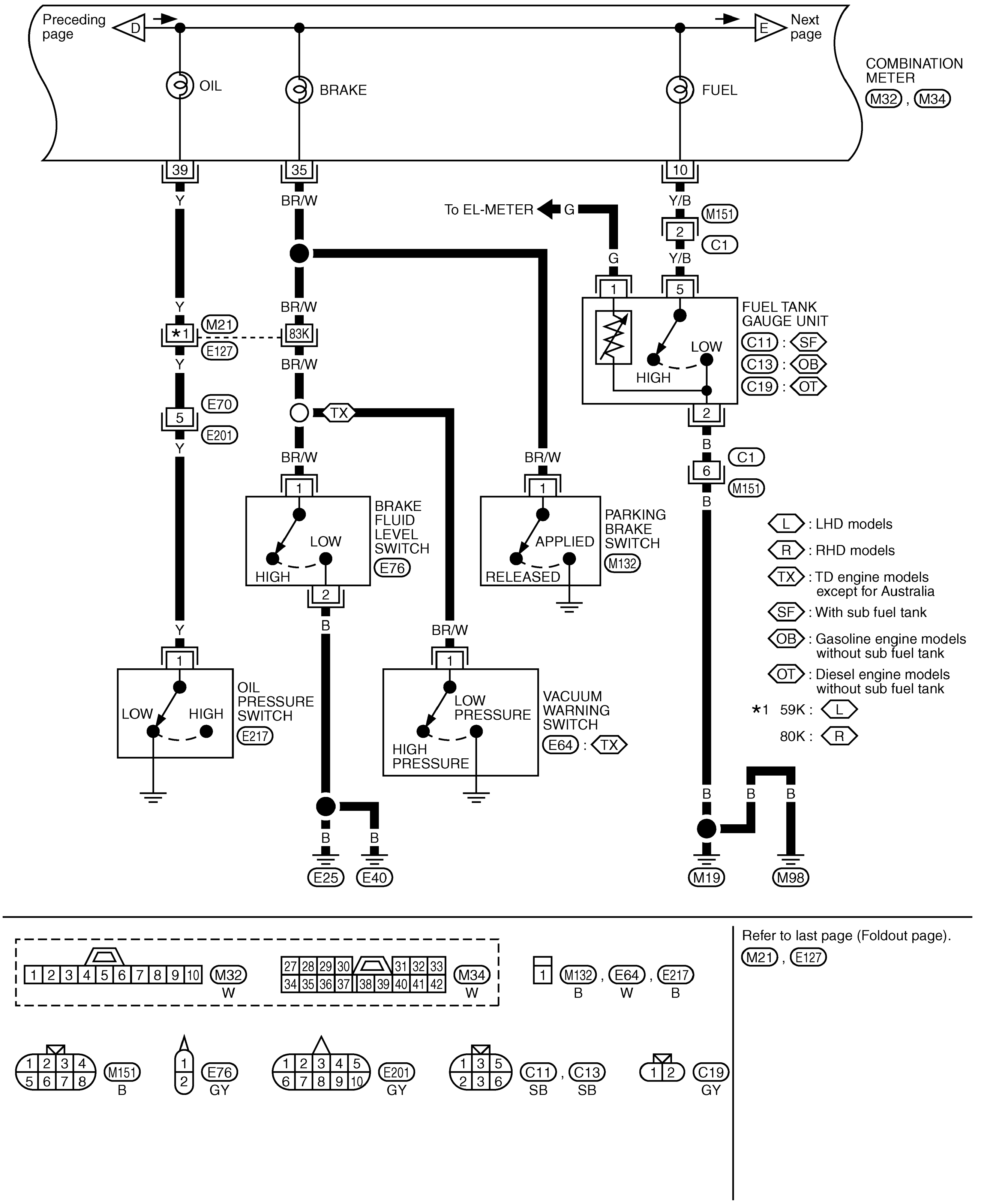
Wiring Diagram — WARN — (Cont'd)

EL-WARN-22



Wiring Diagram — WARN — (Cont'd)

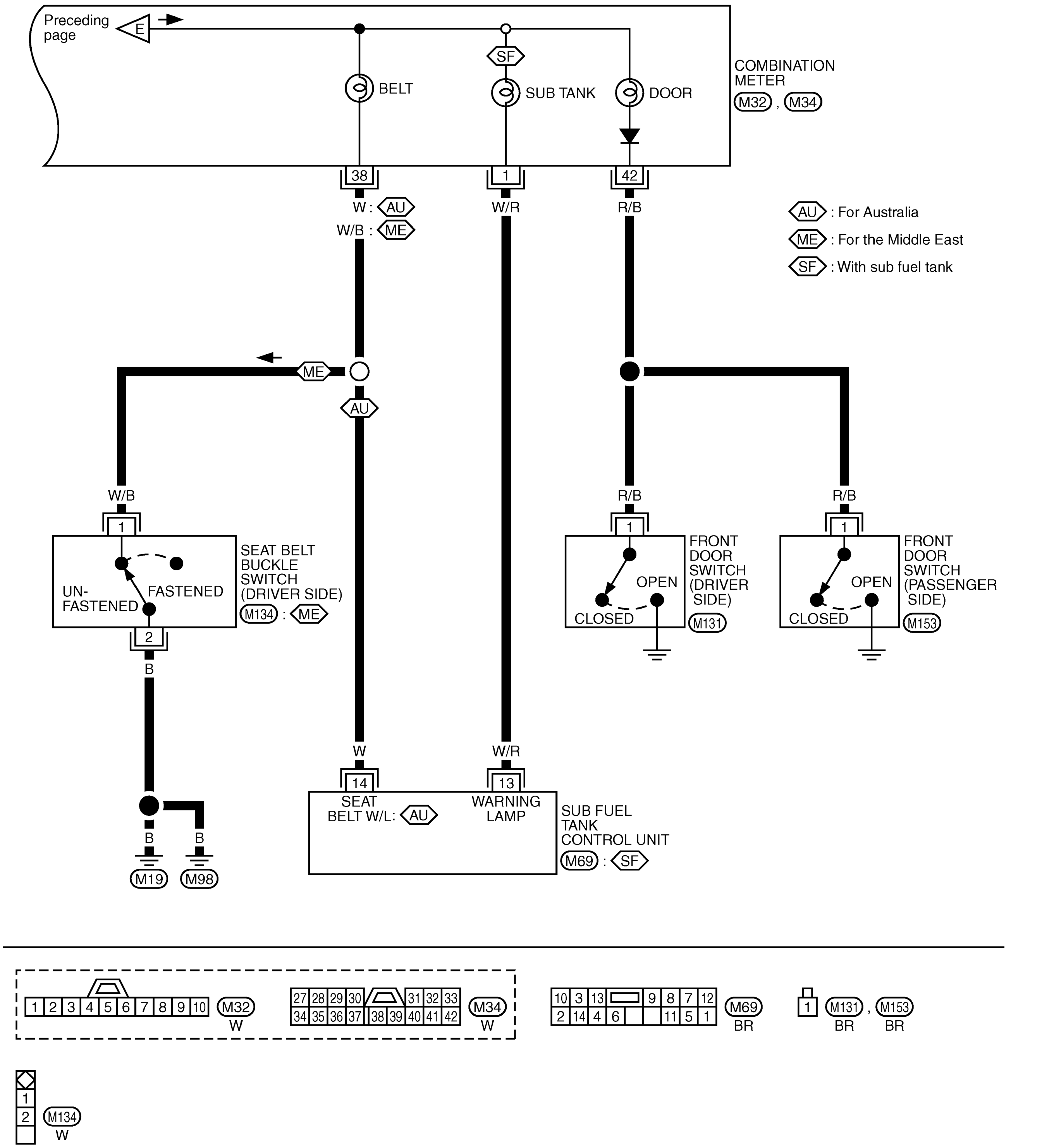
EL-WARN-23



TEL447M

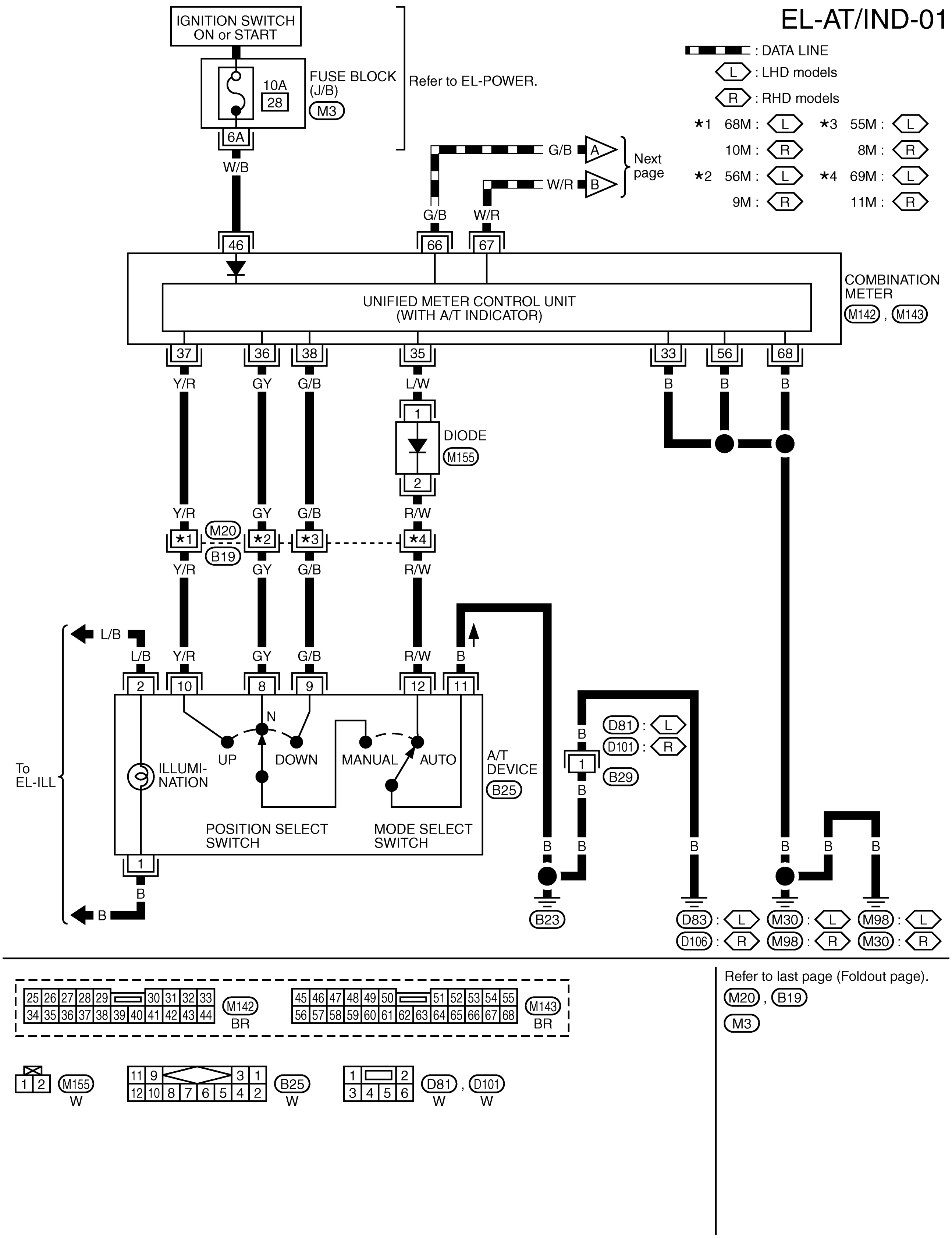
Wiring Diagram — WARN — (Cont'd)

EL-WARN-24



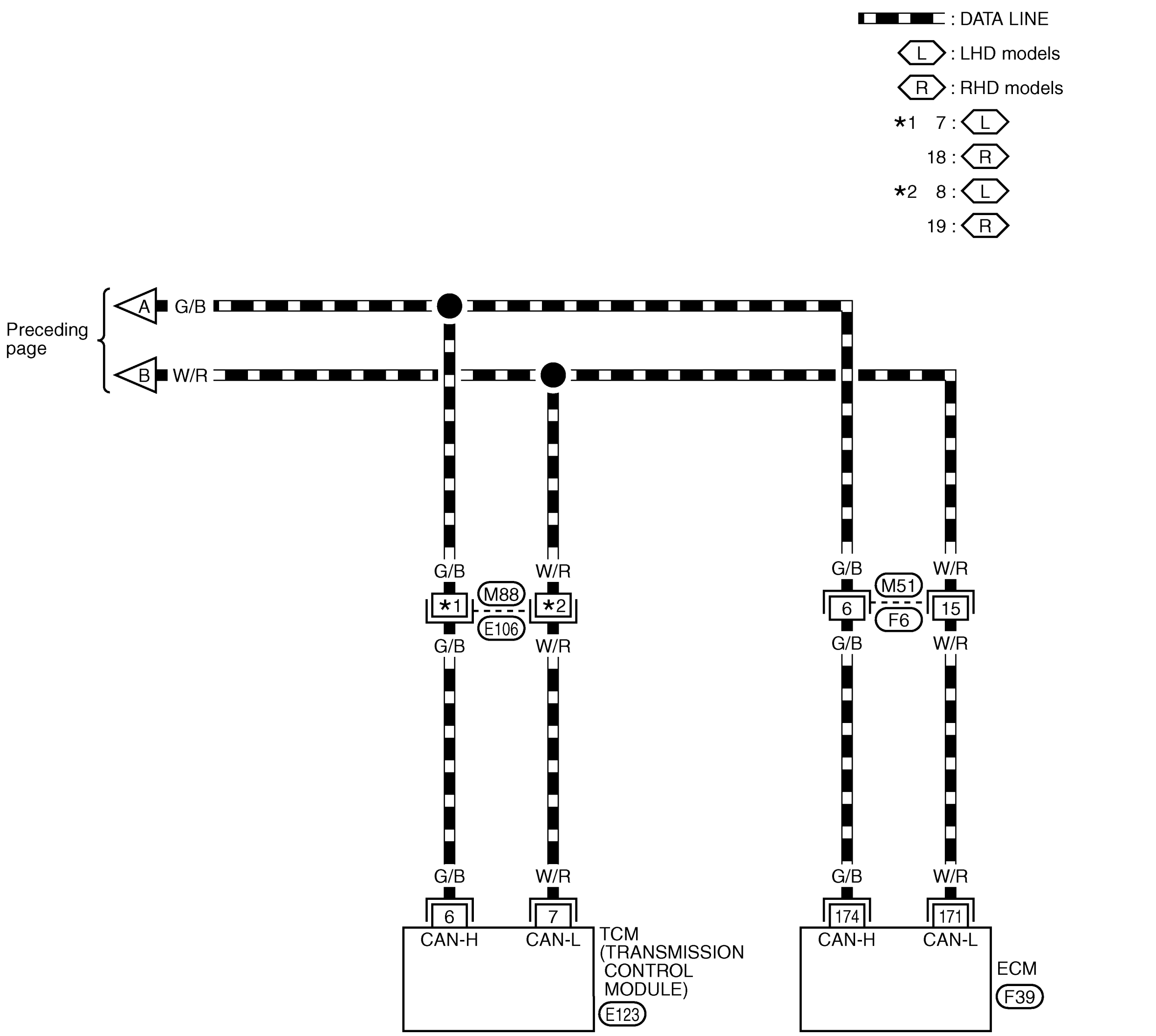
TEL448M

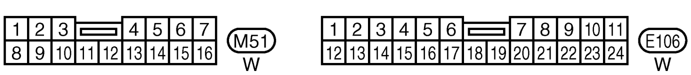
Wiring Diagram — AT/IND —/TB48 Engine Models with A/T



Wiring Diagram — AT/IND —/TB48 Engine Models with A/T (Cont'd)

EL-AT/IND-02





Refer to last page (Foldout page).
E123
F39

TEL630M

System Description/Except for Europe, South Africa and with Theft Warning System Models

The warning chime is combined with the combination meter (meter control unit).
Both the ignition key and light warning chime will not sound, when ignition switch in the ON or START position (when power supply exists at combination meter terminal ㊻).

IGNITION KEY WARNING CHIME

With the key in the ignition key cylinder, the ignition switch in the OFF or ACC position, and the driver's door open and locked, the warning chime will sound. Power is supplied
- from key switch terminal ①
- to combination meter terminal ⑲.

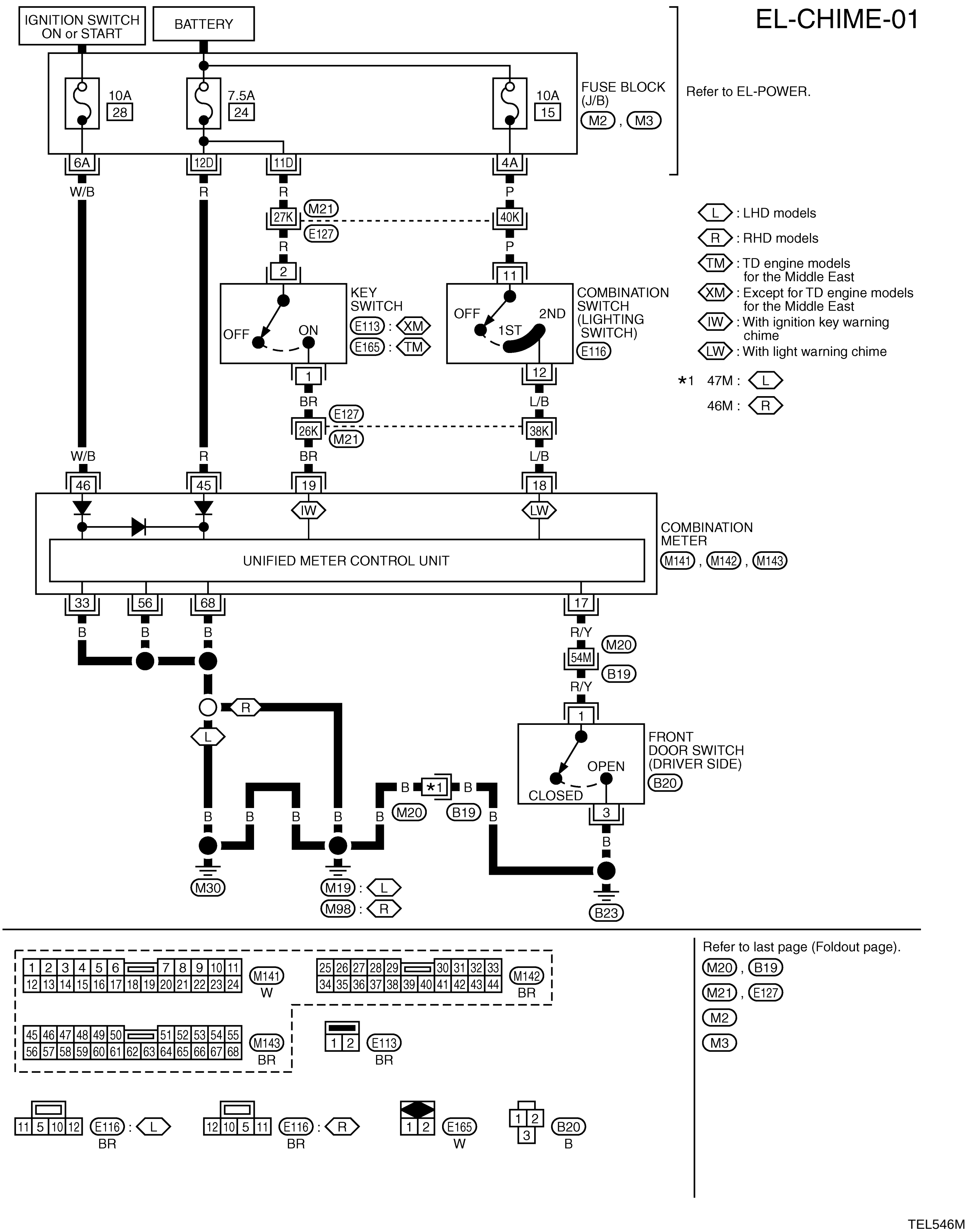
Ground is supplied
- through driver front door switch terminal ①
- to combination meter terminal ⑰.

LIGHT WARNING CHIME

With ignition switch in the OFF or ACC position, driver's door open, and lighting switch in 1ST or 2ND position, warning chime will sound. Power is supplied
- from combination switch terminal ⑫
- to combination meter terminal ⑱.

Ground is supplied
- through driver front door switch terminal ①
- to combination meter terminal ⑰.

Wiring Diagram — CHIME —/Except for Europe, South Africa and with Theft Warning System Models

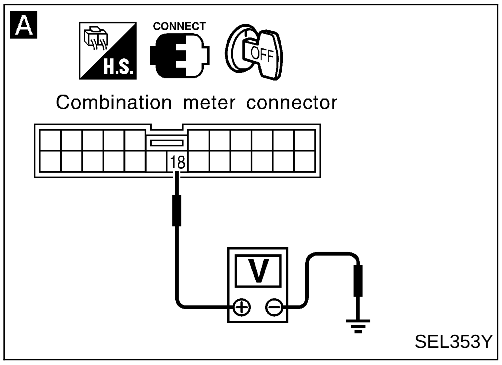


GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Trouble Diagnoses/Except for Europe, South Africa and with Theft Warning System Models

SYMPTOM CHART

REFERENCE PAGE	EL-171	EL-172	EL-173
SYMPTOM	DIAGNOSTIC PROCEDURE 1 (Lighting switch input signal check)	DIAGNOSTIC PROCEDURE 2 (Key switch input signal check)	DIAGNOSTIC PROCEDURE 3
Light warning chime does not activate.	X		X
Ignition key warning chime does not activate.		X	X
All warning chimes do not activate.			X



DIAGNOSTIC PROCEDURE 1

(Lighting switch input signal check)

A

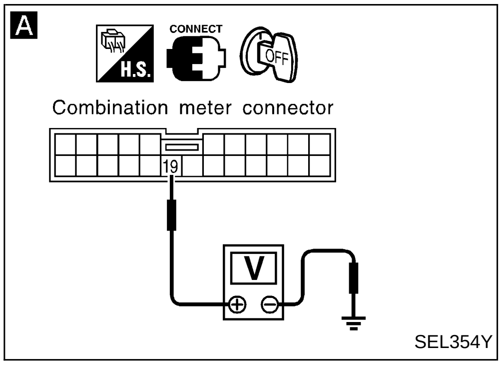
CHECK LIGHTING SWITCH INPUT SIGNAL.
Check voltage between combination meter harness connector (M141) terminal (18) (L/B) and ground.

Condition of lighting switch	Voltage [V]
1ST or 2ND	Approx. 12
OFF	0

NG → Check the following.
- Harness for open or short between combination meter and combination switch

OK ↓

Go to DIAGNOSTIC PROCEDURE 3.



Trouble Diagnoses/Except for Europe, South Africa and with Theft Warning System Models (Cont'd)

DIAGNOSTIC PROCEDURE 2

(Key switch input signal check)

A

CHECK KEY SWITCH INPUT SIGNAL.
Check voltage between combination meter harness connector (M141) terminal ⑲ (BR) and ground.

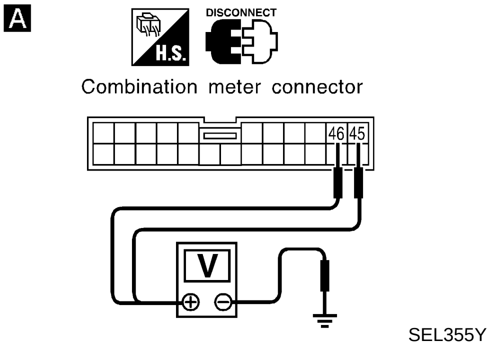
Condition of key switch	Voltage [V]
Key is inserted.	Approx. 12
Key is withdrawn.	0

NG → Check the following.
- Key switch
  Refer to "Electrical Components Inspection" (EL-177).
- 7.5A fuse [No. 24 , located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between combination meter and key switch

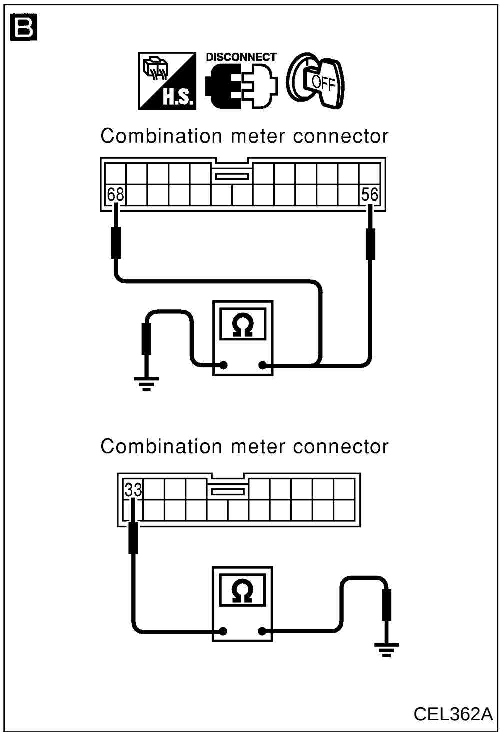
OK ↓

Go to DIAGNOSTIC PROCEDURE 3.

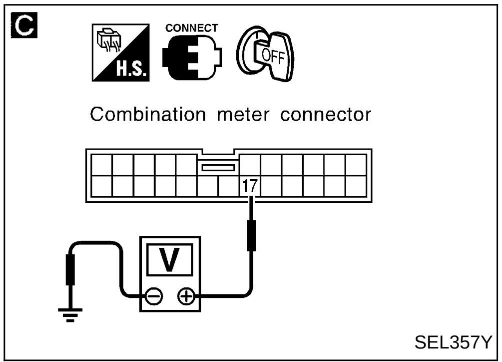
A



B



C



Trouble Diagnoses/Except for Europe, South Africa and with Theft Warning System Models (Cont'd)

DIAGNOSTIC PROCEDURE 3

A

CHECK POWER SUPPLY CIRCUIT FOR COMBINATION.
Check voltage between combination meter harness connector (M143) terminals ㊺ (R), ㊻ (W/B) and ground.

Terminals		Ignition switch position		
⊕	⊖	OFF	ACC	ON
㊺	Ground	Approx. 12V		
㊻	Ground	0V	0V	Approx. 12V

NG → Check the following.
- 10A fuse [No. 28 , located in the fuse block (J/B)]
- 7.5A fuse [No. 24 , located in the fuse block (J/B)]
- Harness for open or short between combination meter and fuse

OK ↓

B

CHECK GROUND CIRCUIT FOR COMBINATION METER.
Check continuity between combination meter harness connector (M142) terminal, ㉝ (B), (M143) terminal, ㊽ (B), ㊿ (B) and ground.
Continuity should exist.

NG → Repair harness or connectors.

OK ↓

C

CHECK DOOR SWITCH INPUT SIGNAL.
Check voltage between combination meter harness connector (M141) terminal ⑰ (R/Y) and ground.

Condition of driver's door	Voltage [V]
Driver side door is closed.	Approx. 12
Driver side door is open.	0

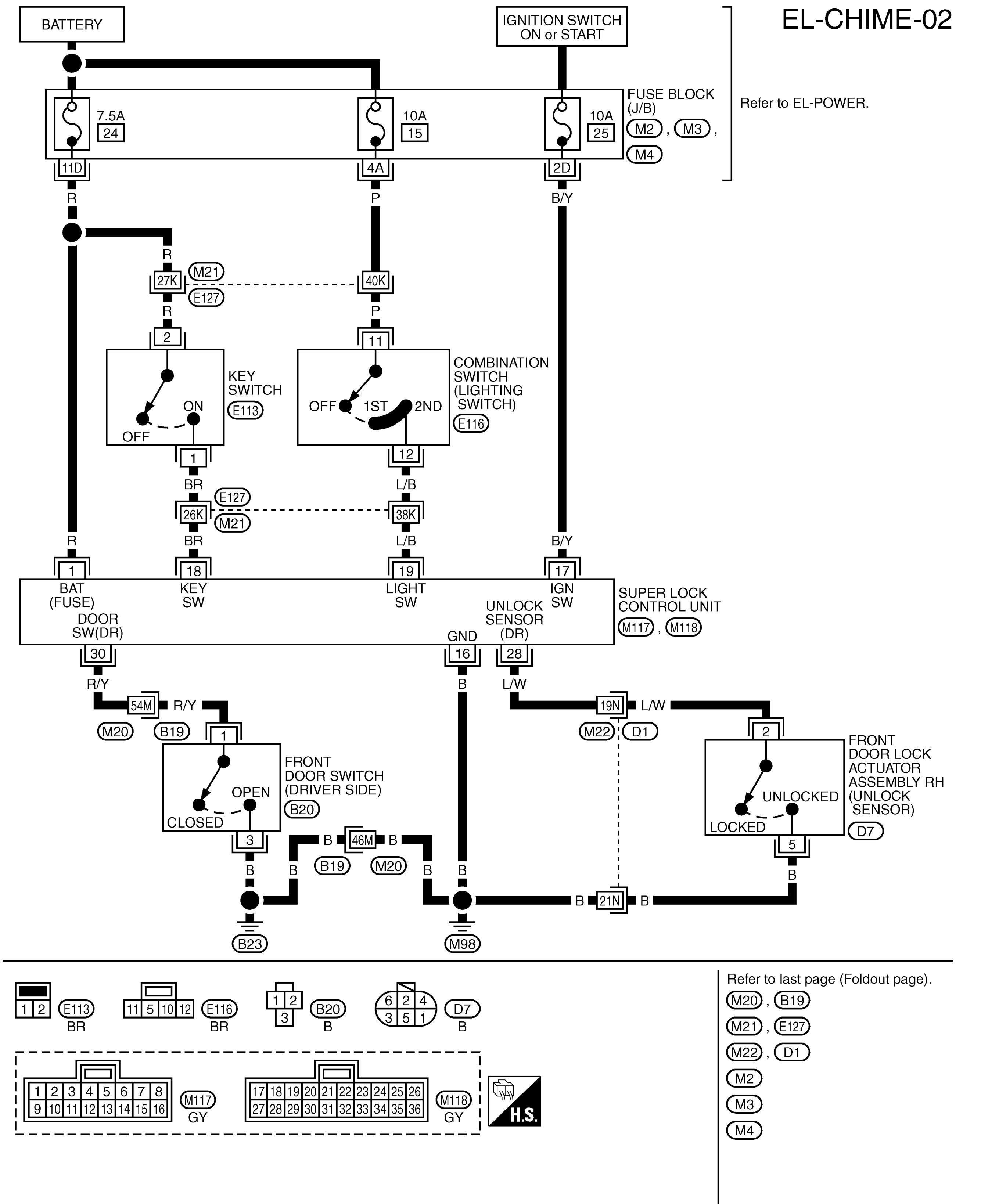
NG → Check the following.
- Driver side door switch Refer to "Electrical Components Inspection" (EL-177).
- Door switch ground circuit
- Harness for open or short between combination meter and door switch

OK ↓

Replace combination meter.

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

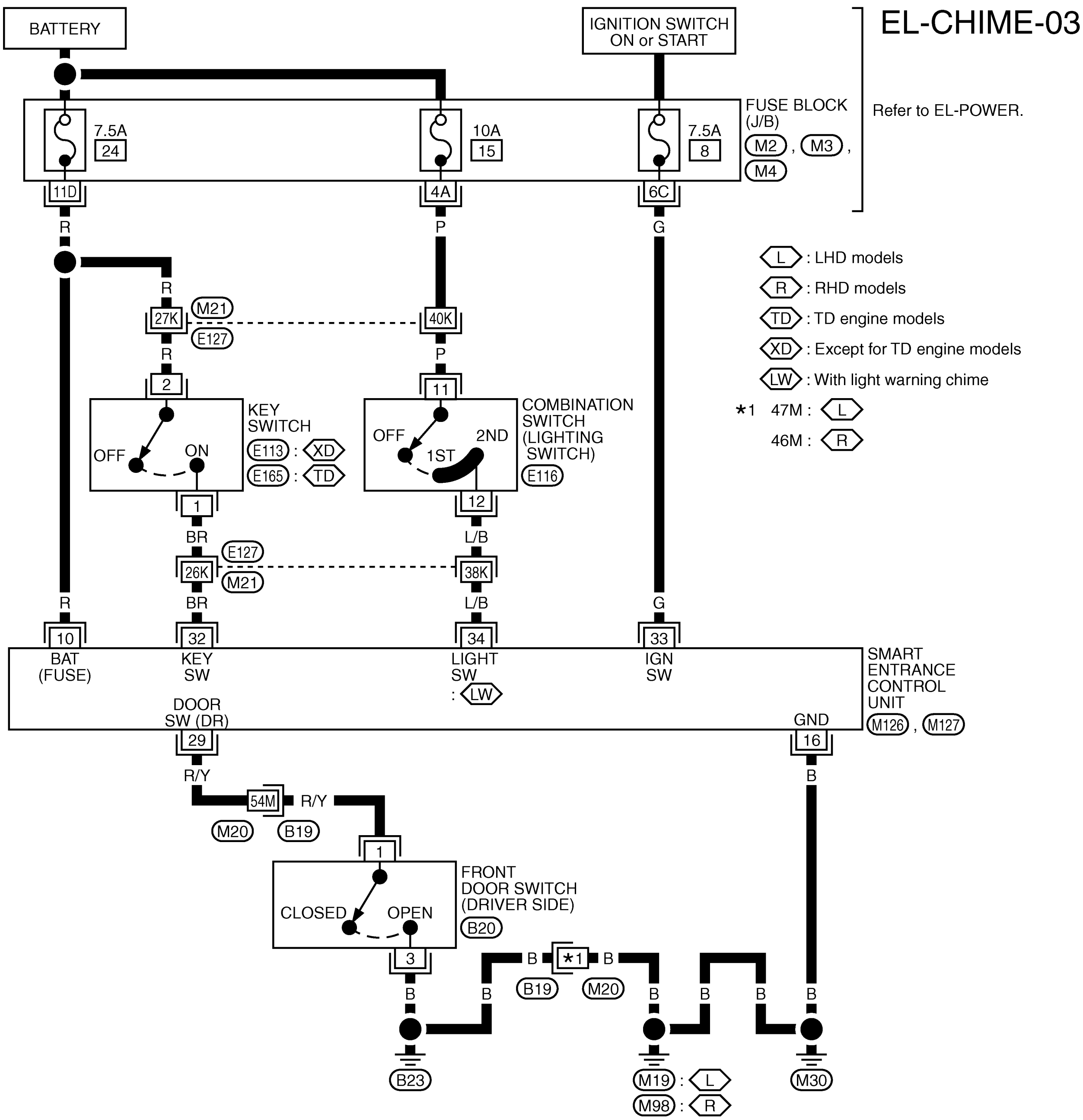
Wiring Diagram — CHIME —/RHD Models for Europe

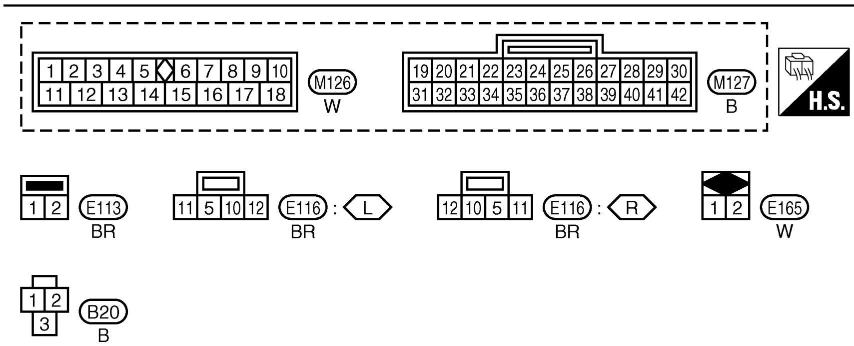


TEL450M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Wiring Diagram — CHIME —/With Theft Warning System Models





Refer to last page (Foldout page).

M20, B19

M21, E127

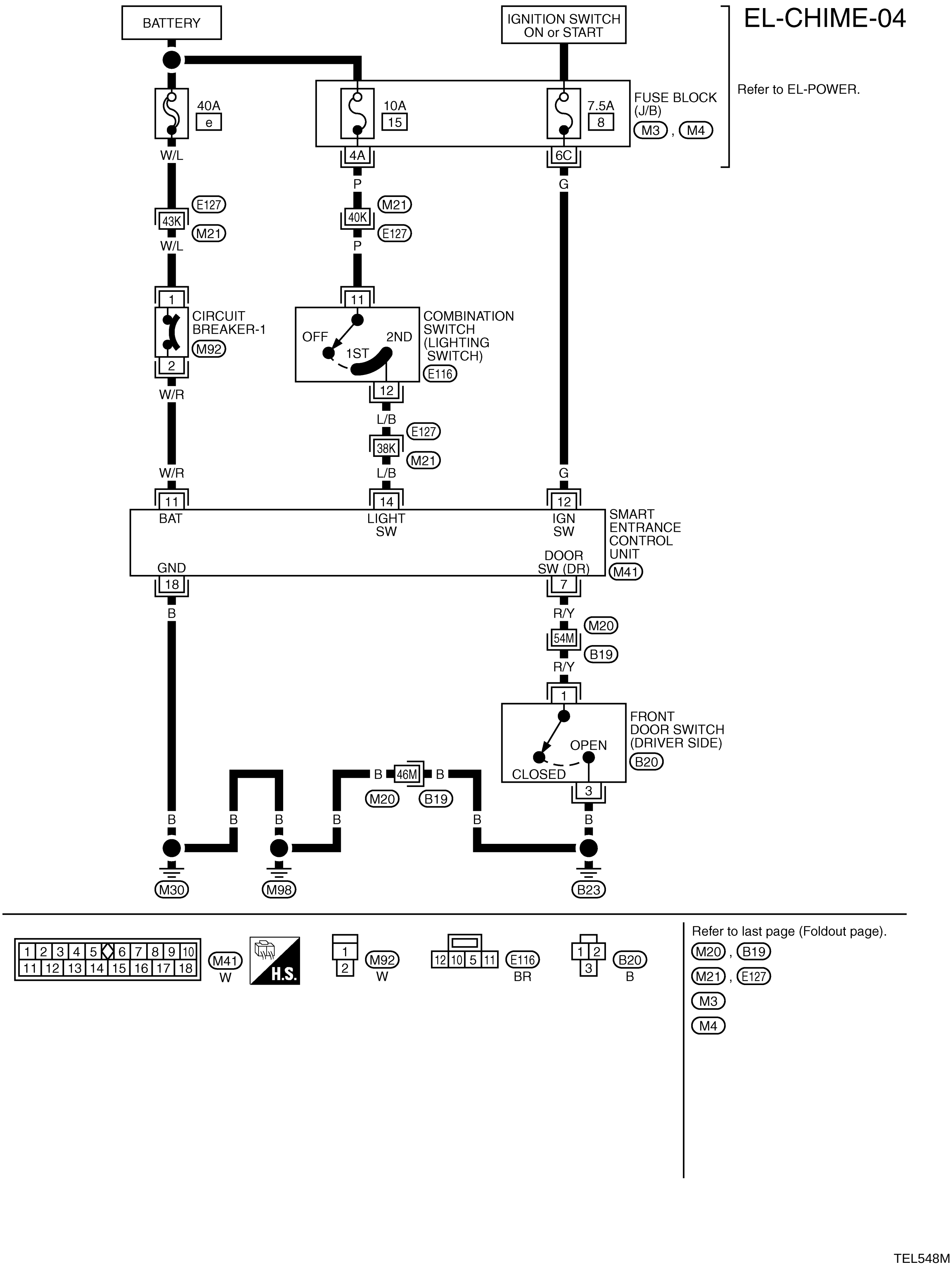
M2

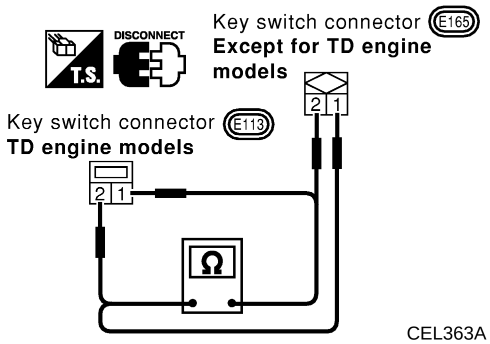
M3

M4

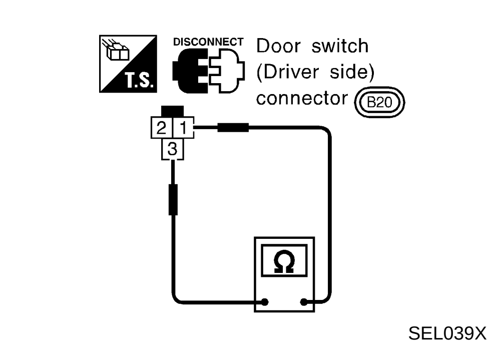
TEL547M

Wiring Diagram — CHIME —/For South Africa





CEL363A



SEL039X

Electrical Components Inspection

KEY SWITCH (insert)

Check continuity between terminals when key is inserted in ignition key cylinder and key is removed from ignition key cylinder.

Terminal No.	Condition	Continuity
① - ②	Key is inserted.	Yes
	Key is removed.	No

DRIVER SIDE DOOR SWITCH

Check continuity between terminals when door switch is pushed and released.

Terminal No.	Condition	Continuity
① - ③	Door switch is pushed.	No
	Door switch is released.	Yes

System Description

WIPER OPERATION

The rear wiper switch is controlled by a ring built into the combination switch.
There are two wiper switch positions:
- ON (LO speed)
- INT (Intermittent)

With the ignition switch in the ON position, power is supplied
- through 10A fuse (No. 18 , located in the fuse block)
- to rear wiper motor terminal ④ , and
- to rear wiper amplifier terminal ⑤ .

Low speed wiper operation

Ground is supplied to rear wiper switch terminal ㉔ through body grounds.
When the rear wiper is placed in the ON position, ground is supplied
- through rear wiper switch terminal ㉒
- to rear wiper relay terminal ⑥ .

Then ground is supplied
- to rear wiper motor terminal ①
- through rear wiper amplifier terminals ② and ③ .

With power and ground supplied, the wiper motor operates.

Auto stop operation

With the rear wiper switch turned OFF, rear wiper motor will continue to operate until wiper arm reaches rear window base.
When wiper arm is not located at base of rear window with rear wiper switch OFF, ground is supplied
- to rear wiper motor terminal ①
- through rear wiper amplifier terminals ② , ⑦ and
- through rear wiper motor terminal ③ , in order to continue rear wiper motor operation at low speed.

Ground is also supplied
- to rear wiper motor terminal ②
- through body grounds.

When wiper arm reaches base of rear window, rear wiper motor terminals ③ and ④ are connected instead of terminals ② and ③ . Rear wiper motor will then stop wiper arm at the PARK position.

Intermittent operation

The rear wiper motor operates the wiper arm one time at low speed at an interval of approximately 7 seconds.
When the rear wiper switch is placed in the INT position, ground is supplied
- to rear wiper amplifier terminal ①
- through rear wiper switch terminal ㉑ .

Then the rear wiper motor operates intermittently in the same manner as the low speed wiper operation.

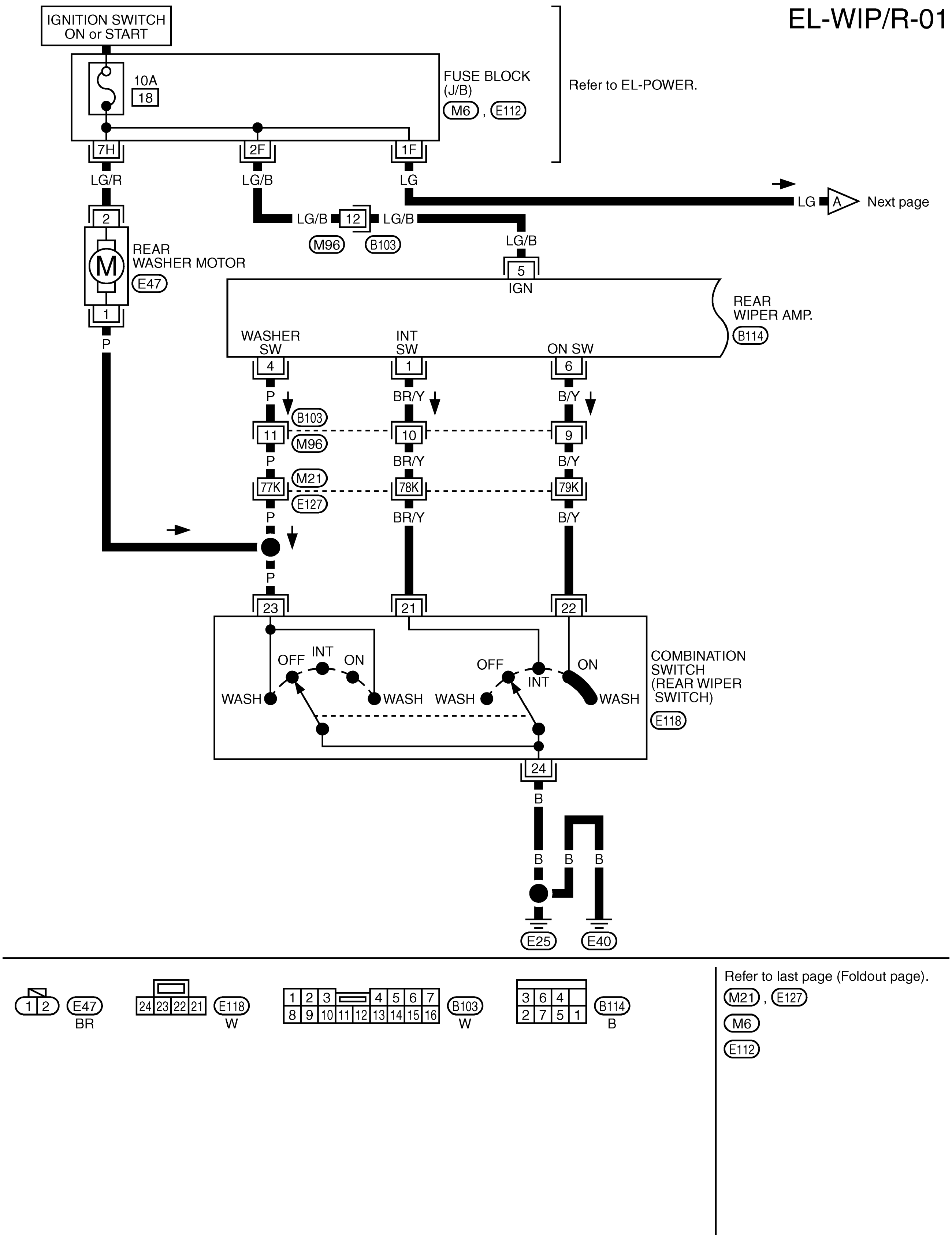
WASHER OPERATION

With the ignition switch in the ACC or ON position, power is supplied
- through 10A fuse (No. 18 , located in the fuse block)
- to rear washer motor terminal ② .

When the ring is turned WASH position, ground is supplied
- to rear washer motor terminal ① , and
- to rear wiper amplifier terminal ④
- through terminal ㉓ of rear wiper switch.

With power and ground is supplied, the rear washer motor operates.
The rear wiper motor operates when the ring is turned to WASH position for one second or more and for approximately 3 seconds after the ring is released. This feature is controlled by the rear wiper amplifier in the same manner as the low speed wiper operation.

Wiring Diagram — WIP/R —/LHD Models

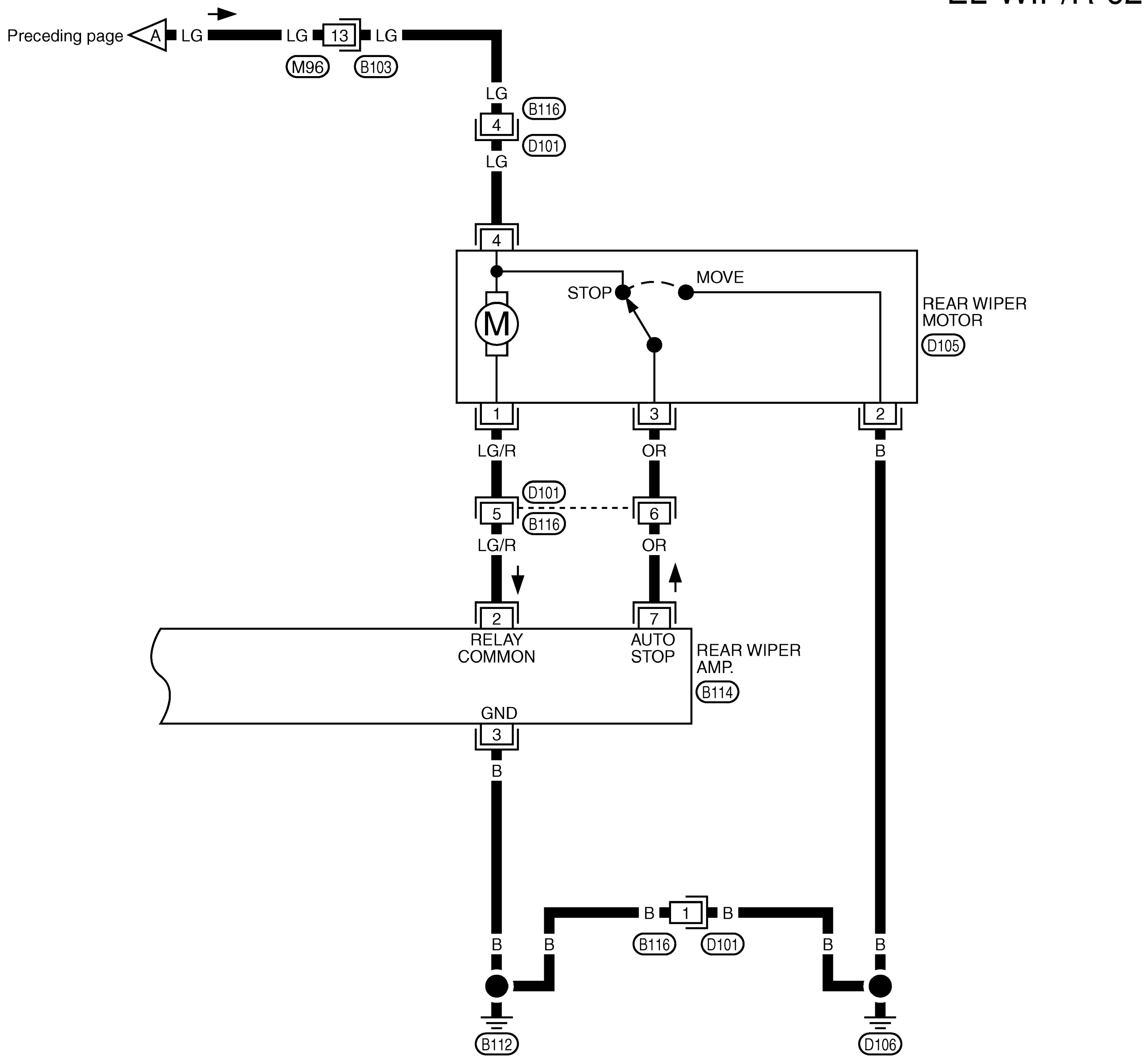


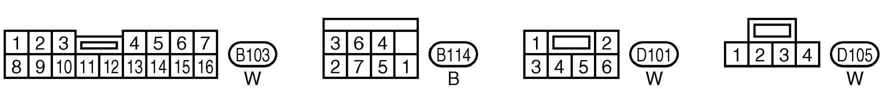
TEL460M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Wiring Diagram — WIP/R —/LHD Models (Cont’d)

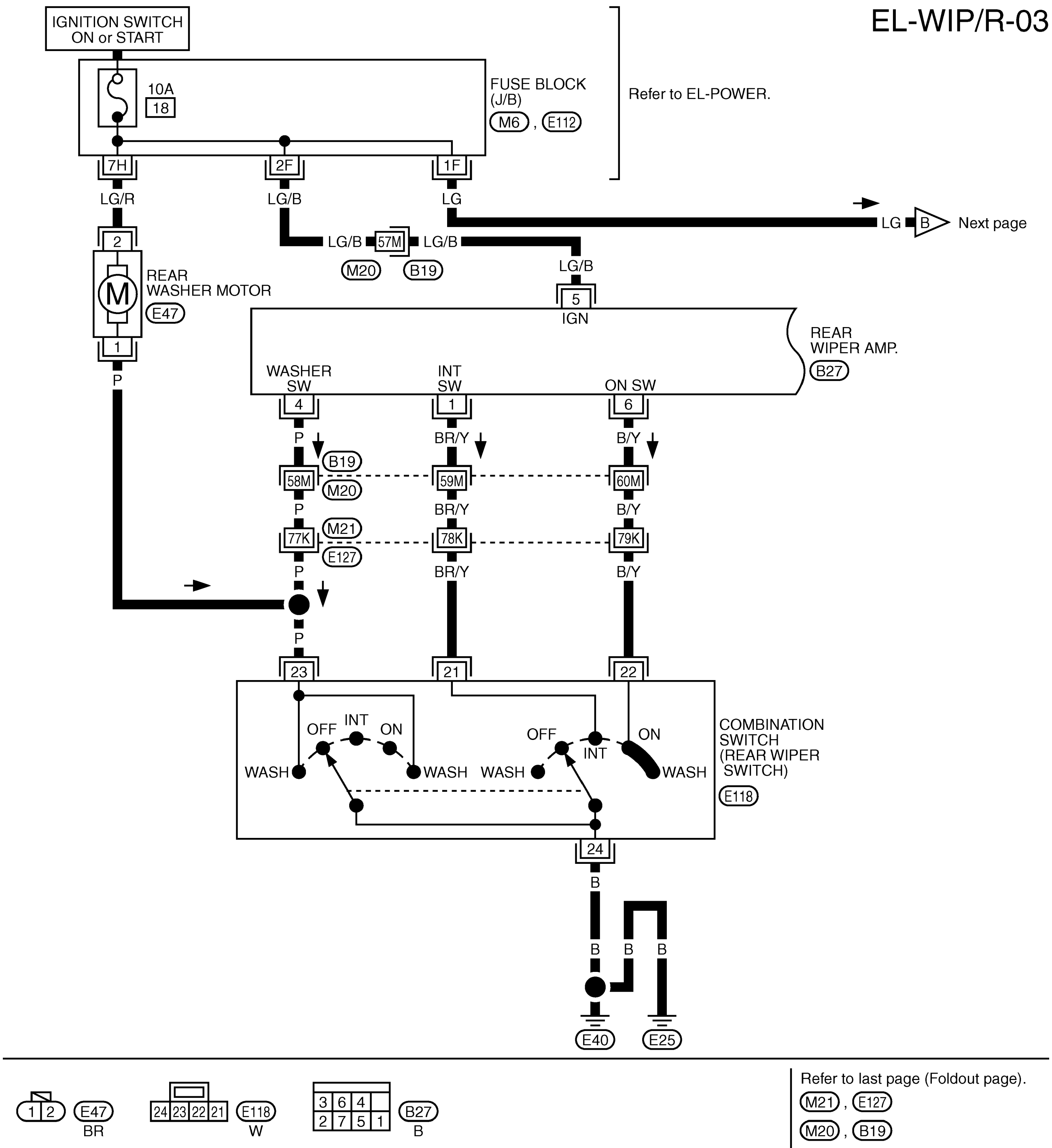
EL-WIP/R-02





TEL461M

Wiring Diagram — WIP/R —/RHD Models



Refer to last page (Foldout page).

M21, E127

M20, B19

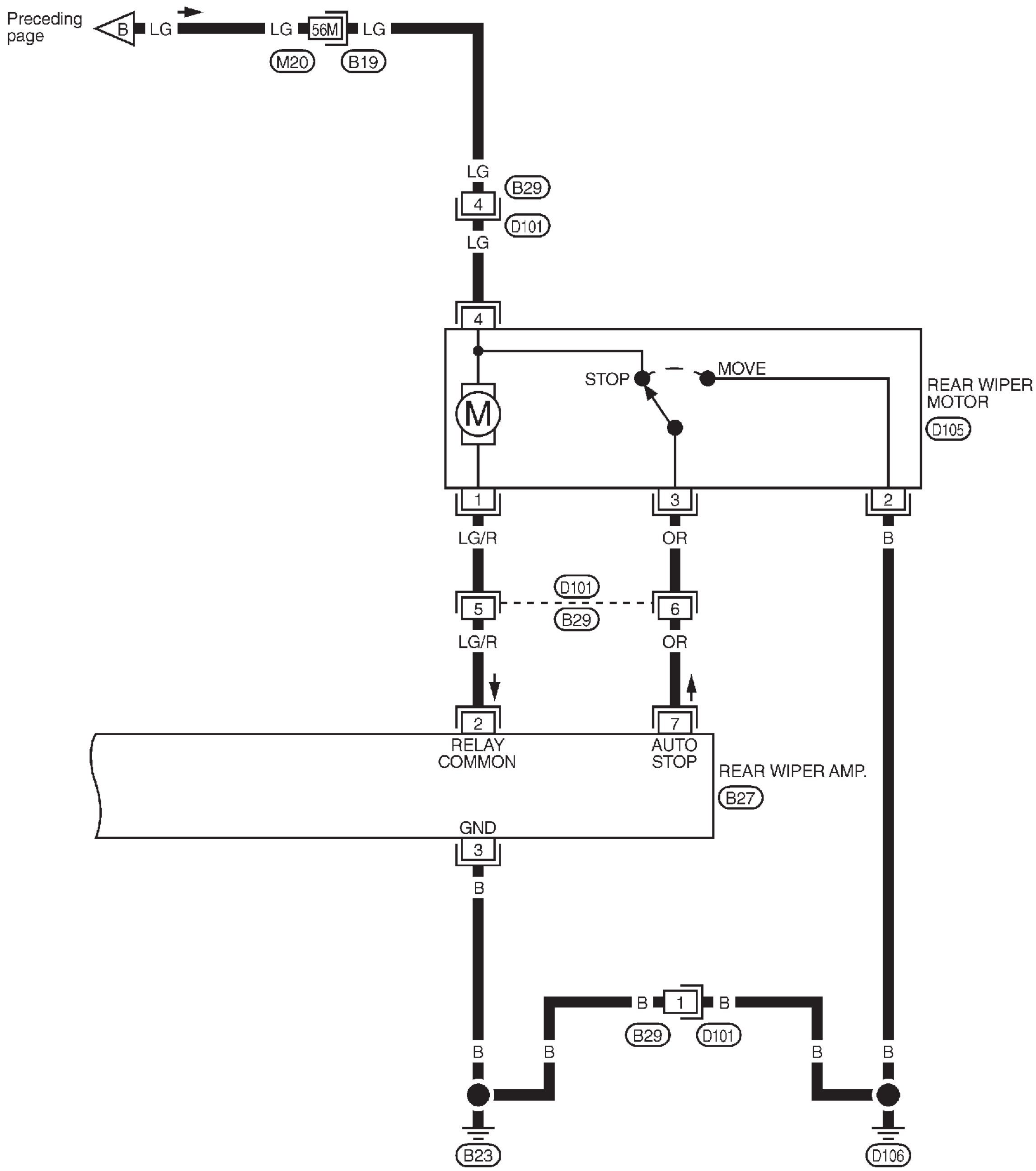
M6

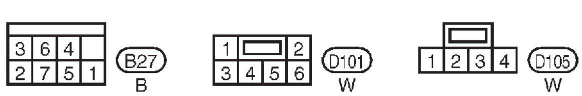
E112

TEL462M

Wiring Diagram — WIP/R —/RHD Models (Cont'd)

EL-WIP/R-04

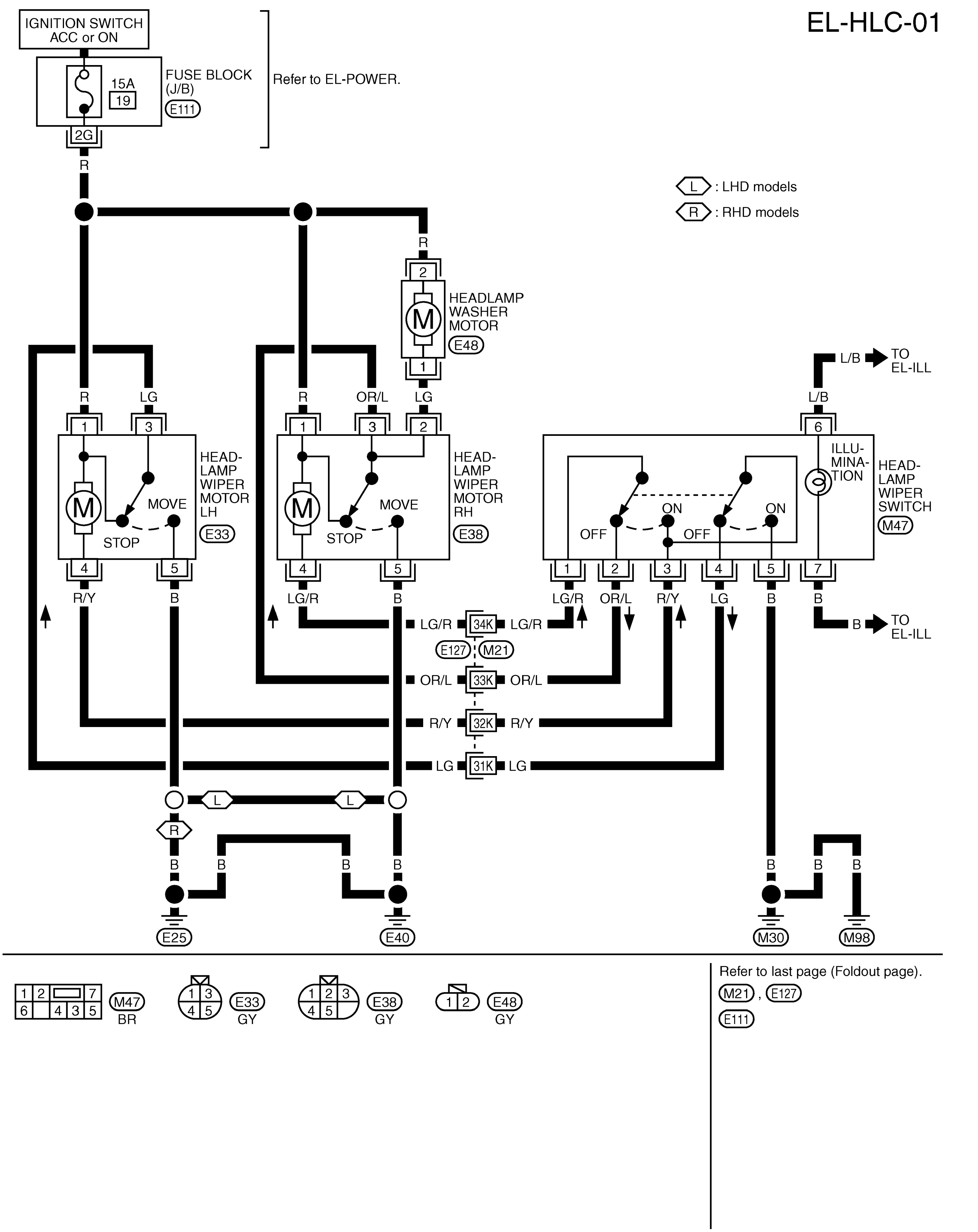




Refer to last page (Foldout page).
M20, B19

TEL656A

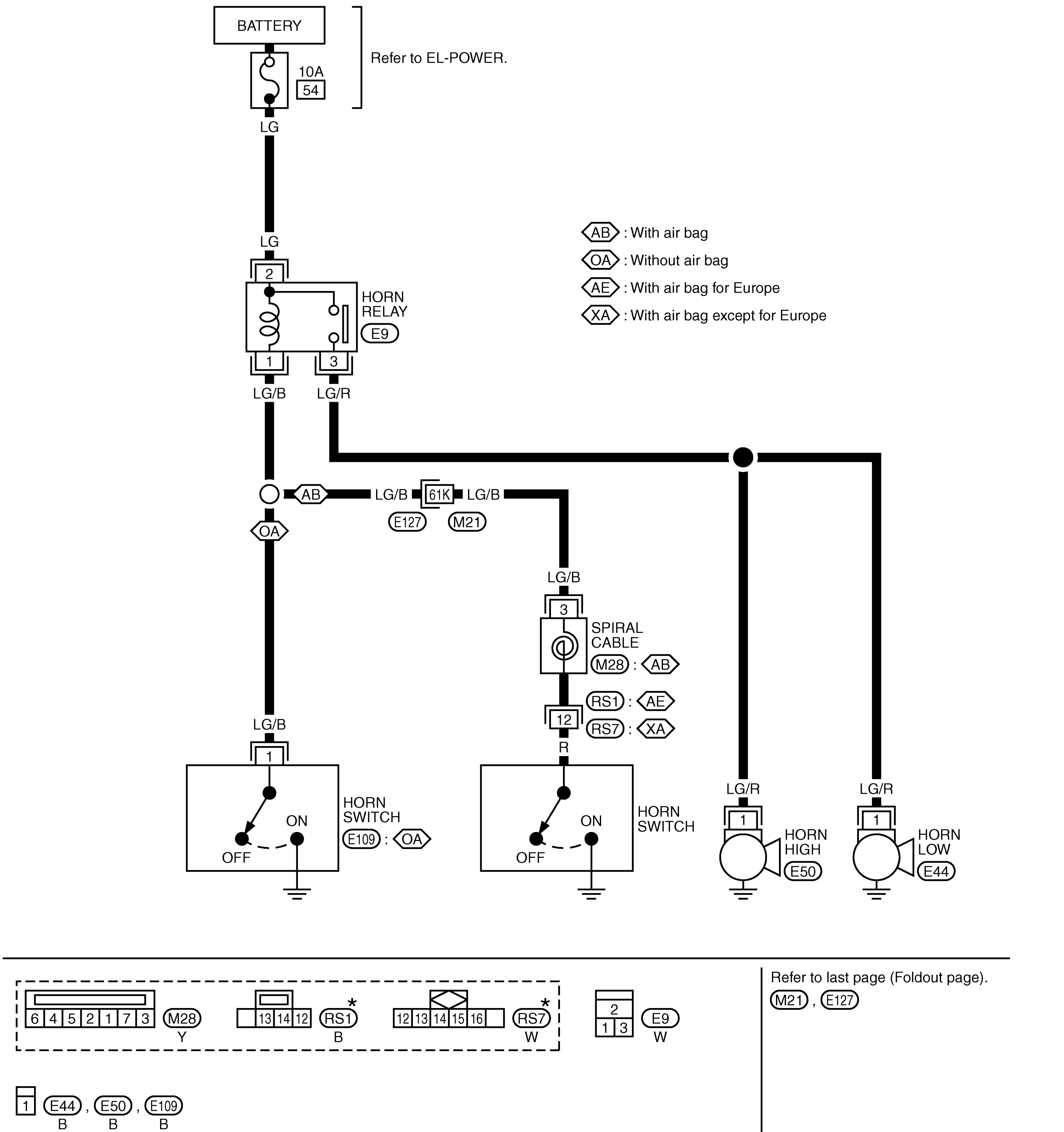
Wiring Diagram — HLC —



TEL463M

Wiring Diagram — HORN —

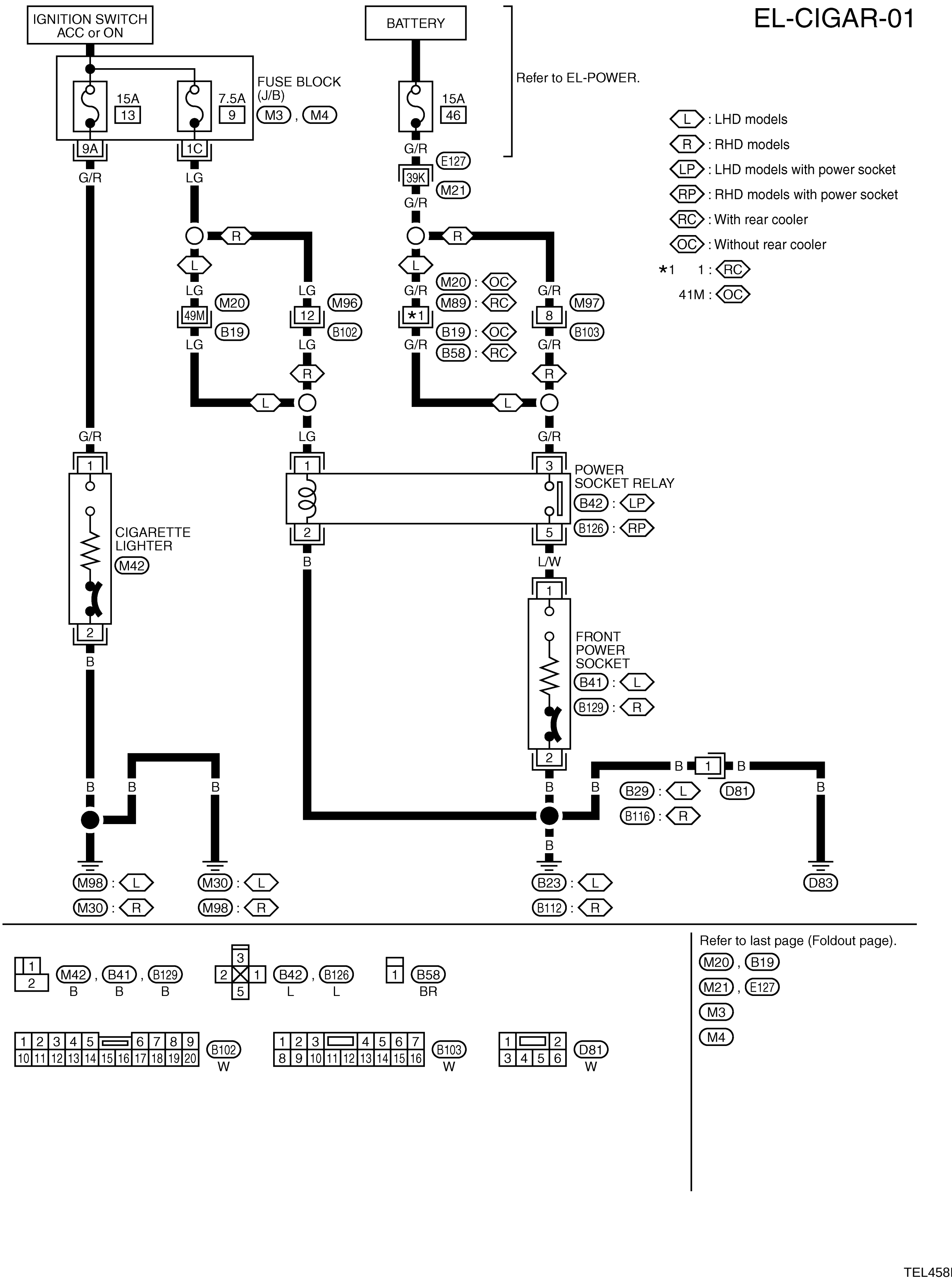
EL-HORN-01



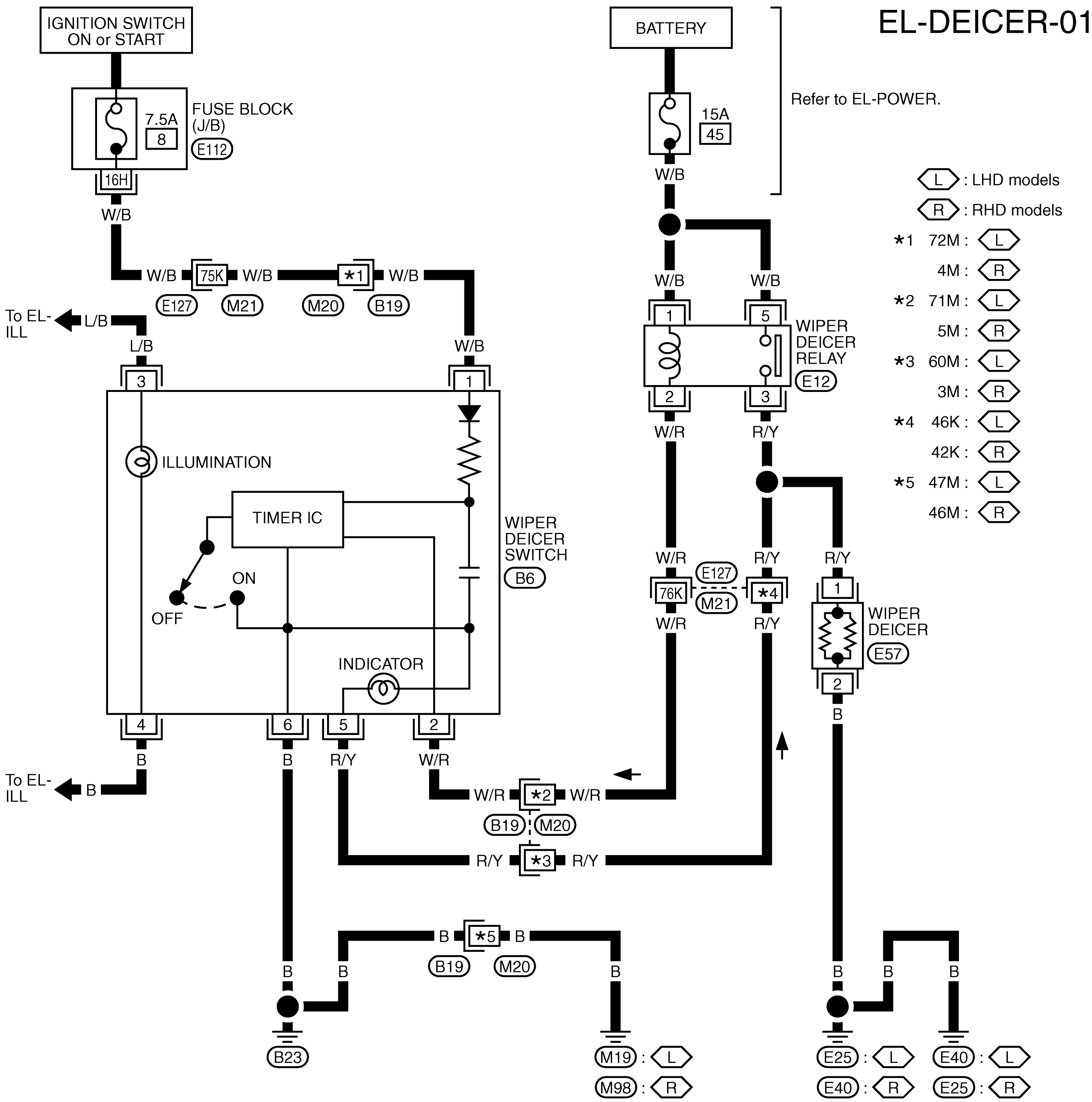
*: This connector is not shown in "HARNESS LAYOUT", EL section.

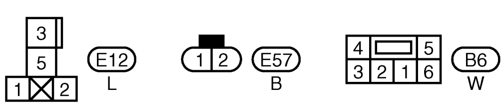
TEL457M

Wiring Diagram — CIGAR —



Wiring Diagram — DEICER —





Refer to last page (Foldout page).
M20, B19
M21, E127
E112

TEL459M

GI
MA
EM
LC
EC
FE
CL
MT
AT
TF
PD
FA
RA
BR
ST
RS
BT
HA
EL
SE
IDX

System Description/Except for Europe, China and South Africa

The rear window defogger system is controlled by the combination meter (meter control unit). The rear window defogger operates only for approximately 15 minutes.
Power is supplied at all times.
- to rear window defogger relay terminal ③
- through 15A fuse (No. 43 , located in the fuse and fusible link box) and
- to rear window defogger relay terminal ⑥
- through 20A fuse (No. 44 , located in the fuse and fusible link box).

With the ignition switch in the ON or START position, power is supplied
- to the rear window defogger relay terminal ① and
- through 7.5A fuse [No. 8 , located in the fuse block (J/B)]
- to combination meter terminal ㊻
- through 10A fuse [No. 28 , located in the fuse block (J/B)].

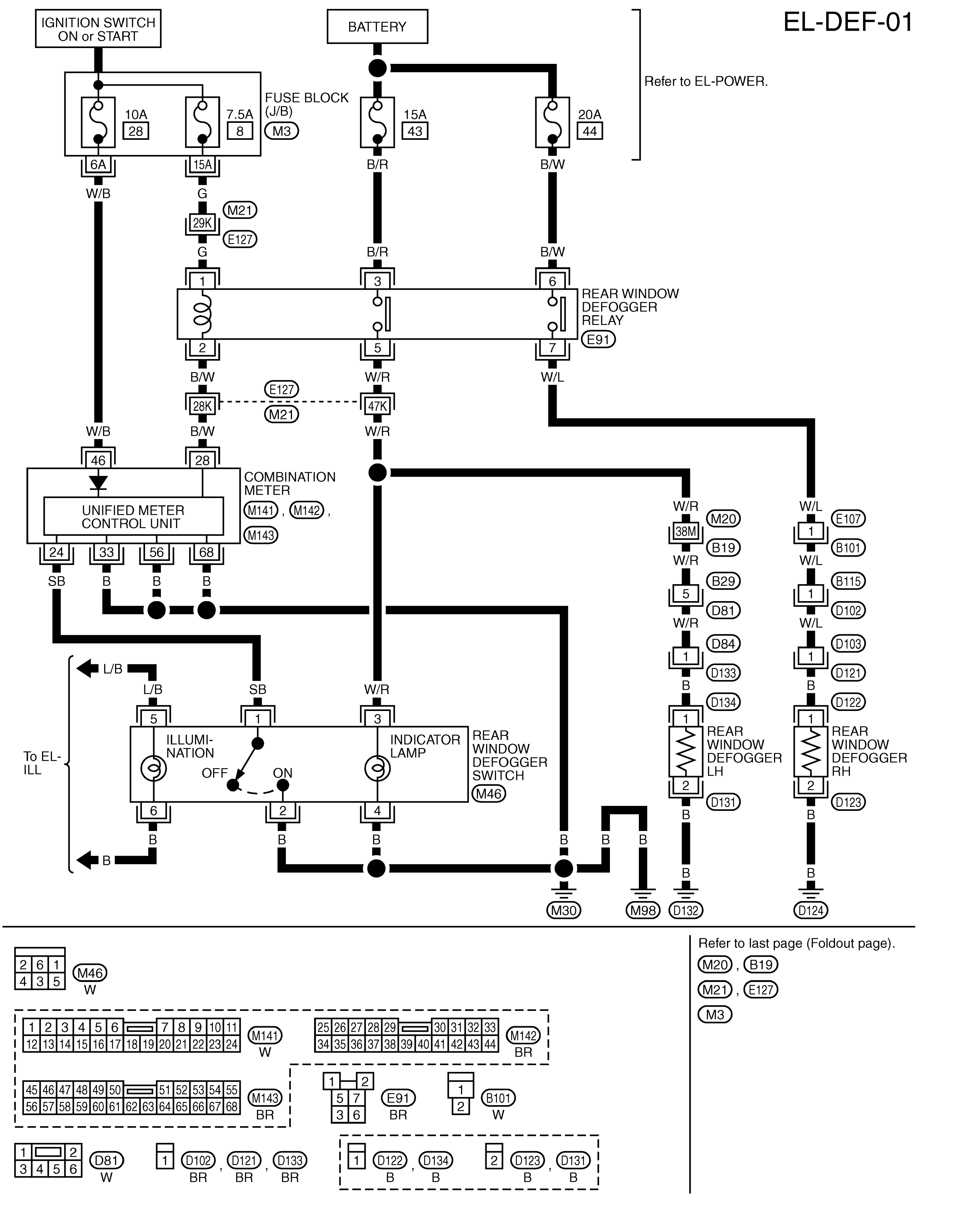
Ground is supplied to terminal ② of the rear window defogger switch through body grounds.
When the rear window defogger switch is turned ON, ground is supplied
- through terminal ① of the rear window defogger switch
- to combination meter terminal ㉔.

Terminal ㉘ of the combination meter then supplies ground to the rear window defogger relay terminal ②.
With power and ground supplied, the rear window defogger relay is energized.
Power is supplied
- through terminals ⑤ and ⑦ of the rear window defogger relay
- to the rear window defogger.

The rear window defogger has an independent ground.
With power and ground supplied, the rear window defogger filaments heat and defog the rear window.
When the system is activated, the rear window defogger indicator illuminates in the rear window defogger switch.
Power is supplied
- to terminal ③ of the rear window defogger switch
- from terminal ⑤ of the rear window defogger relay.

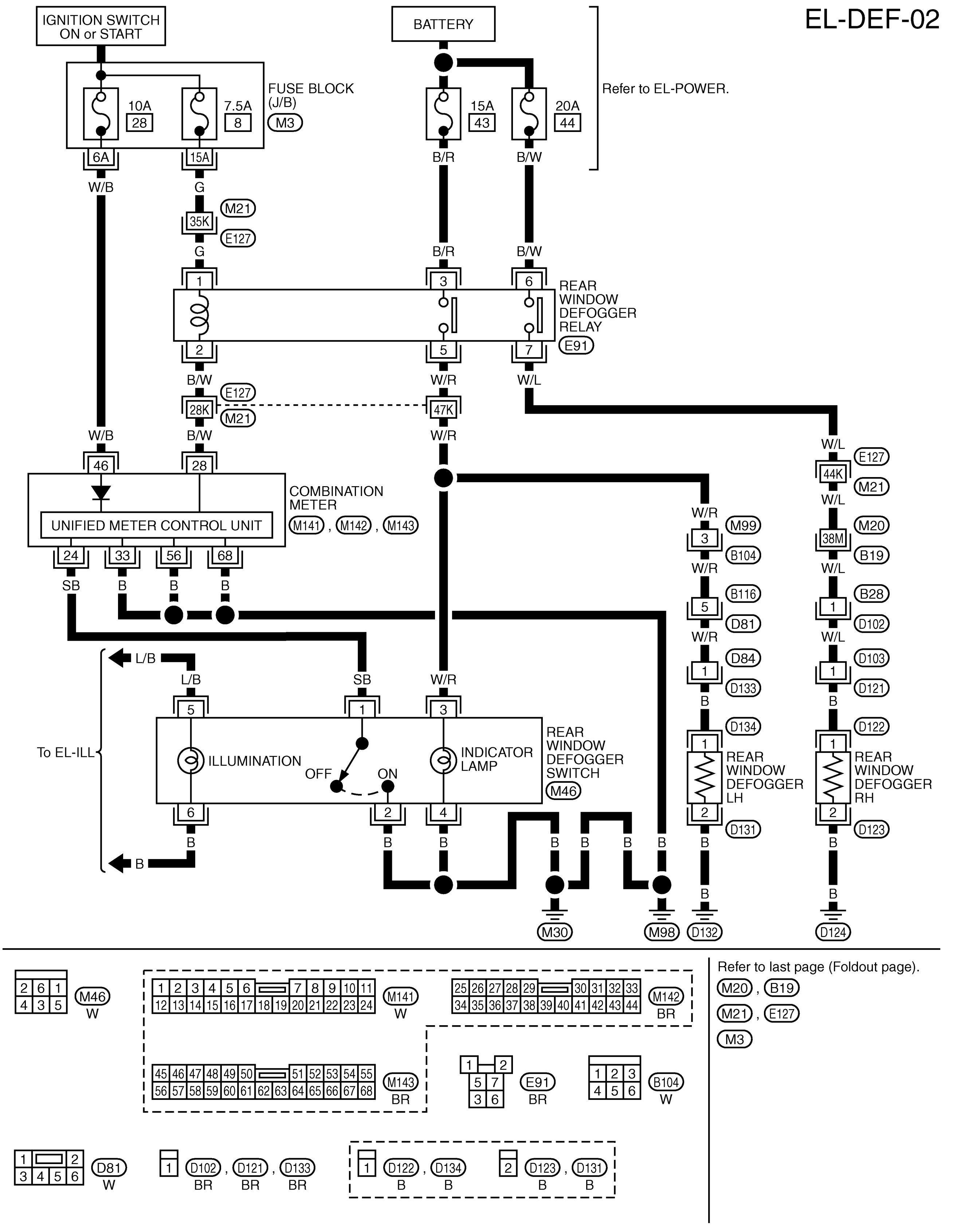
Terminal ④ of the rear window defogger switch is grounded through body grounds.

Wiring Diagram — DEF —/LHD Models Except for Europe and China



TEL464M

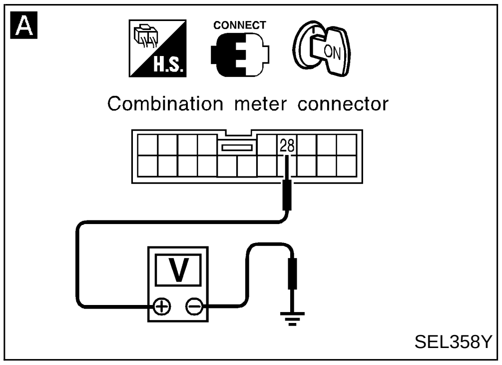
Wiring Diagram — DEF —/RHD Models Except for Europe and South Africa



TEL549M

Trouble Diagnoses/Except for Europe, China and South Africa

SYMPTOM: Rear window defogger does not activate, or does not go off after activating.



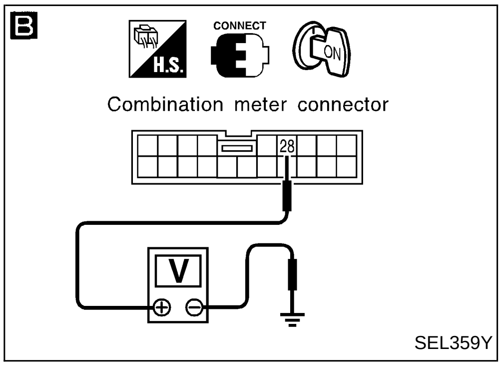
A

CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL.
1. Turn ignition switch to ON position.
2. Check voltage between combination meter harness connector (M142) terminal (28) (B/W) and ground.

Condition	Voltage [V]
Rear window defogger switch is released.	Approx. 12
Rear window defogger switch is pushed.	0

OK → Check the following.
- Rear window defogger relay (Refer to EL-191.)
- Rear window defogger circuit
- Rear window defogger filament (Refer to "Filament Check" in Service Manual.)

NG ↓

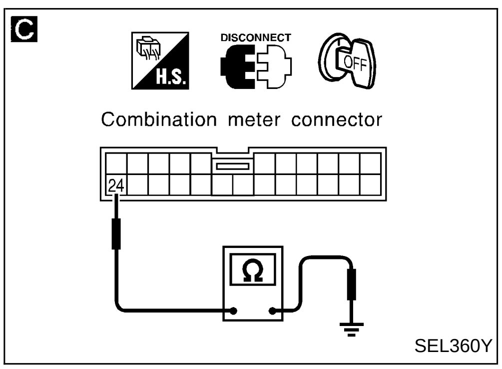


B

1. Disconnect combination meter connector.
2. Turn ignition switch to ON position.
3. Check voltage between combination meter harness connector (M142) terminal (28) (B/W) and ground.
   Battery voltage should exist.

NG → Check the following.
- 7.5A fuse [No. 8, located in the fuse block (J/B)]
- Rear window defogger relay
- Harness for open or short between combination meter and rear window defogger relay
- Harness for open or short between rear window defogger relay and fuse

OK ↓



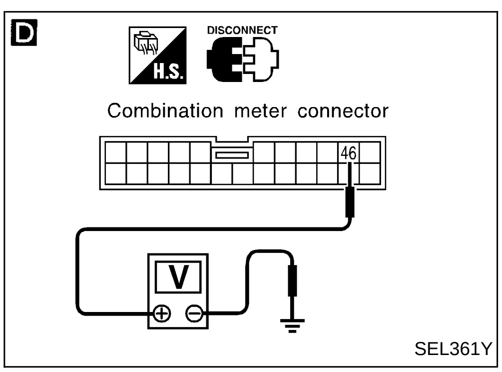
C

CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL.
Check continuity between combination meter harness connector (M141) terminal (24) (SB) and ground.

Condition of defogger switch	Continuity
Rear window defogger switch is pushed.	Yes
Rear window defogger switch is released.	No

NG → Check the following.
- Rear window defogger switch (Refer to EL-191.)
- Harness for open or short between combination meter and rear window defogger switch
- Rear window defogger switch ground circuit

OK ↓



D

CHECK IGNITION INPUT SIGNAL.
Check voltage between combination meter harness connector (M143) terminal (46) (W/B) and ground.

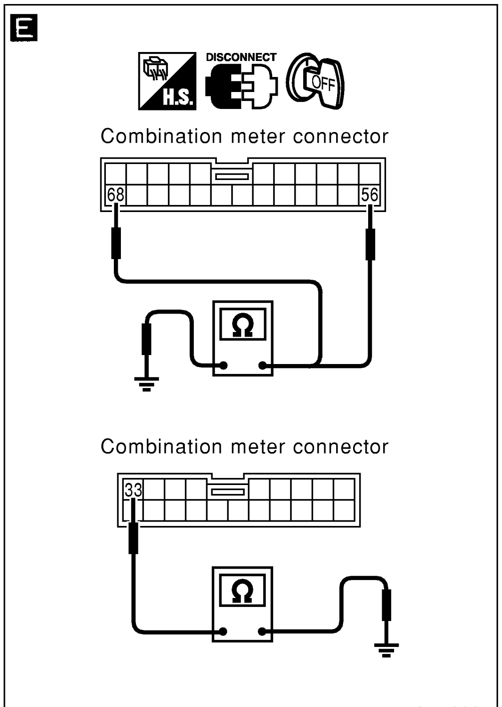
Condition	Voltage [V]
Ignition switch is "ON".	Approx. 12
Ignition switch is "OFF".	0

NG → Check the following.
- 10A fuse [No. 28 located in the fuse block (J/B)]
- Harness for open or short between combination meter and fuse

OK ↓

(A)

Trouble Diagnoses/Except for Europe, China and South Africa (Cont'd)



CEL362A

Ⓐ

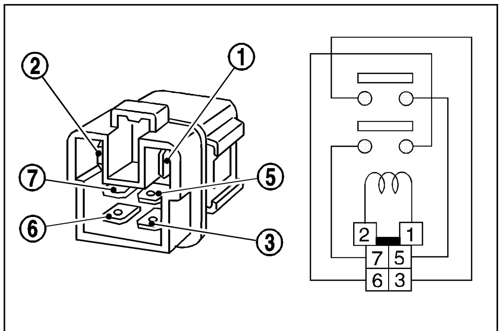
OK ↓

CHECK GROUND CIRCUIT FOR COMBINATION METER.
Check continuity between combination meter harness connector (M142) terminal ㉝ (B), (M143) terminal ㊱ (B), ㊽ (B) and ground.
Continuity should exist.

- NG → Repair harness or connectors.
- OK ↓

Replace smart entrance control unit.

Electrical Components Inspection

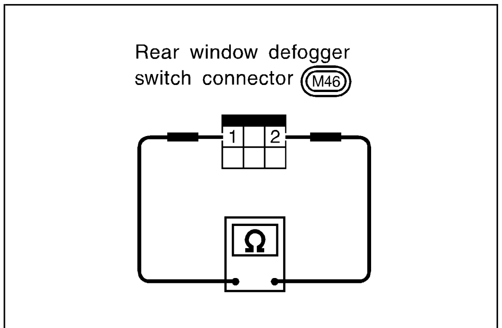


SEC202B

REAR WINDOW DEFOGGER RELAY

Check continuity between terminals ③ and ⑤, ⑥ and ⑦.

Condition	Continuity
12V direct current supply between terminals ① and ②	Yes
No current supply	No



SEL430TG

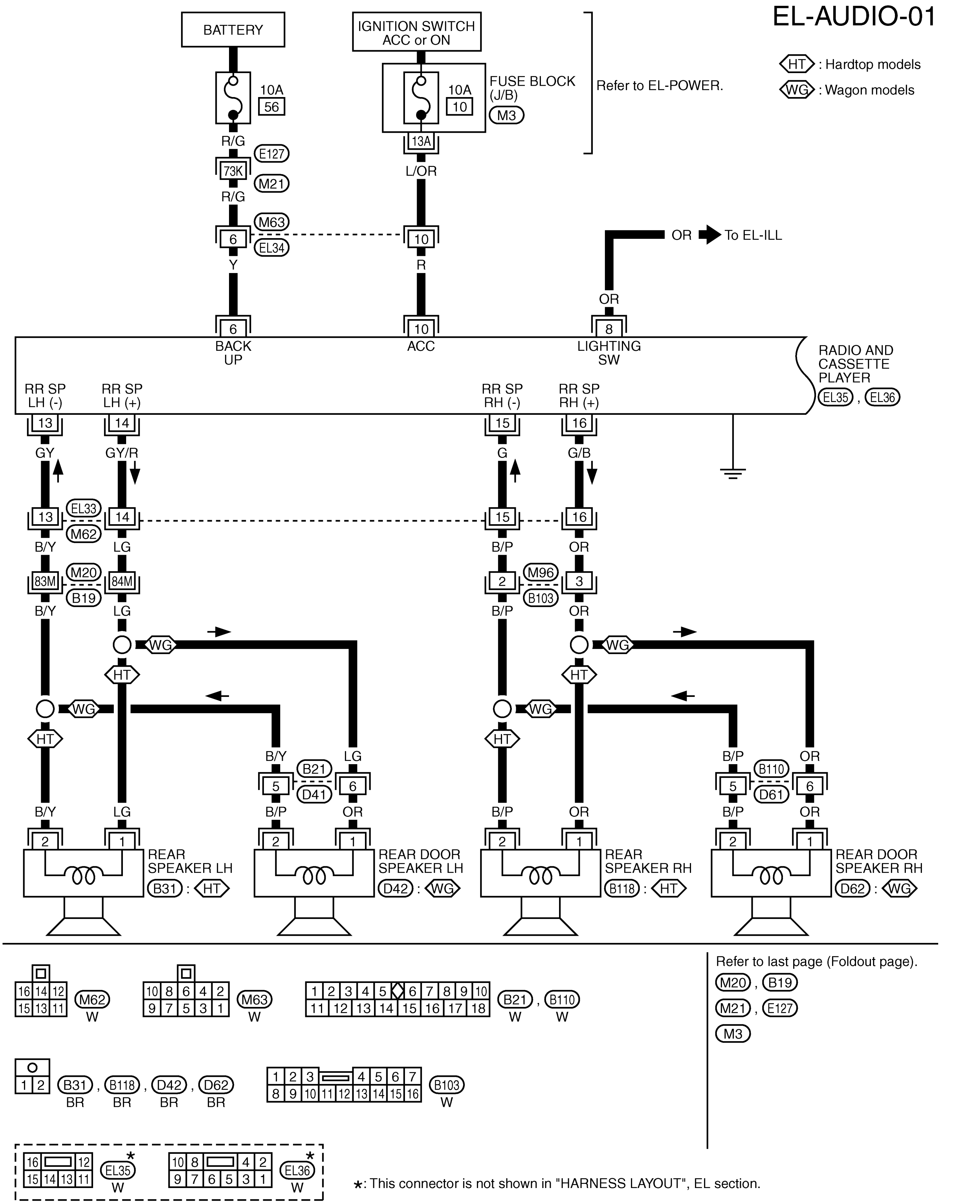
REAR WINDOW DEFOGGER SWITCH

Check continuity between terminals when rear window defogger switch is pushed and released.

Terminals	Condition	Continuity
① - ②	Rear window defogger switch is pushed	Yes
	Rear window defogger switch is released	No

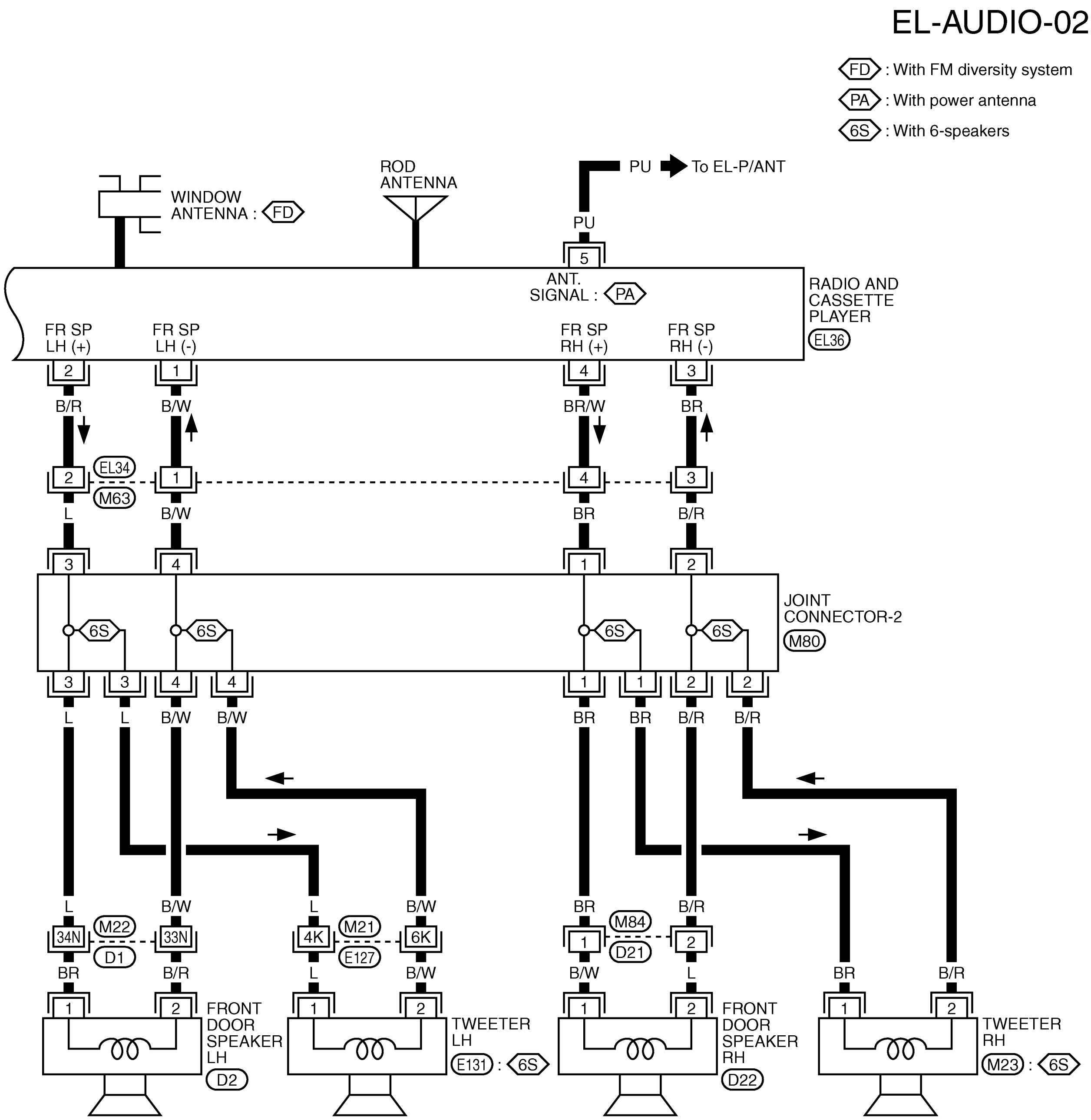
Wiring Diagram — AUDIO —/LHD Models Except for Europe

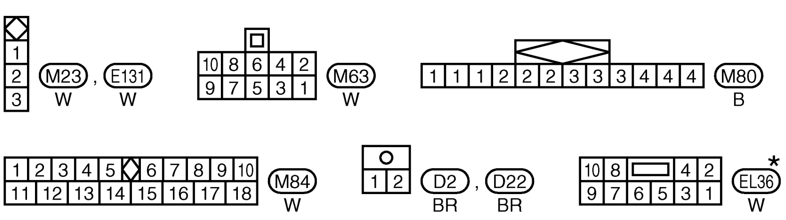
TYPE A
FM-AM tuner radio with sub-harness



TEL550M

Wiring Diagram — AUDIO —/LHD Models Except for Europe (Cont'd)





Refer to last page (Foldout page).

M21 , E127

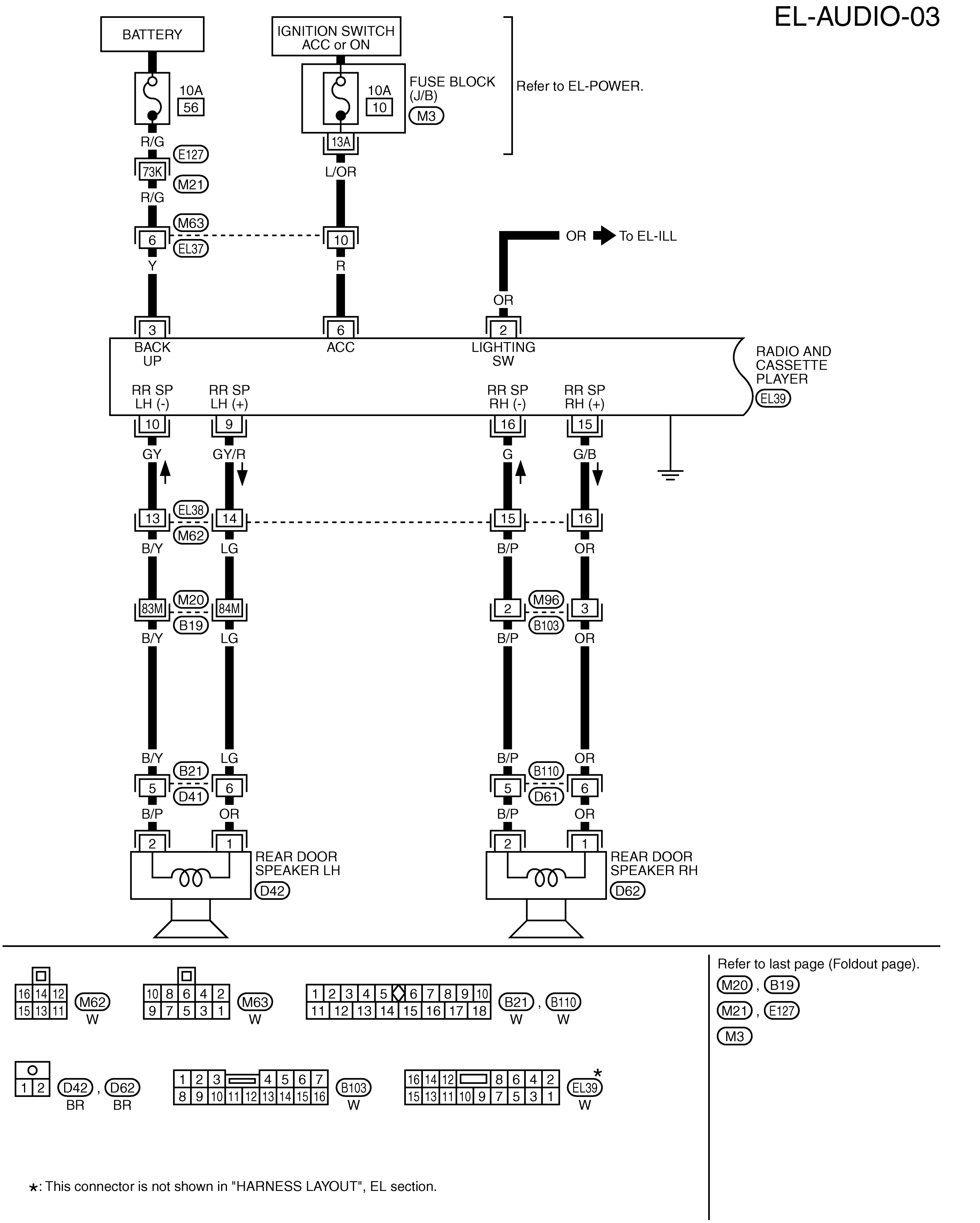
M22 , D1

*: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL551M

Wiring Diagram — AUDIO —/LHD Models Except for Europe (Cont'd)

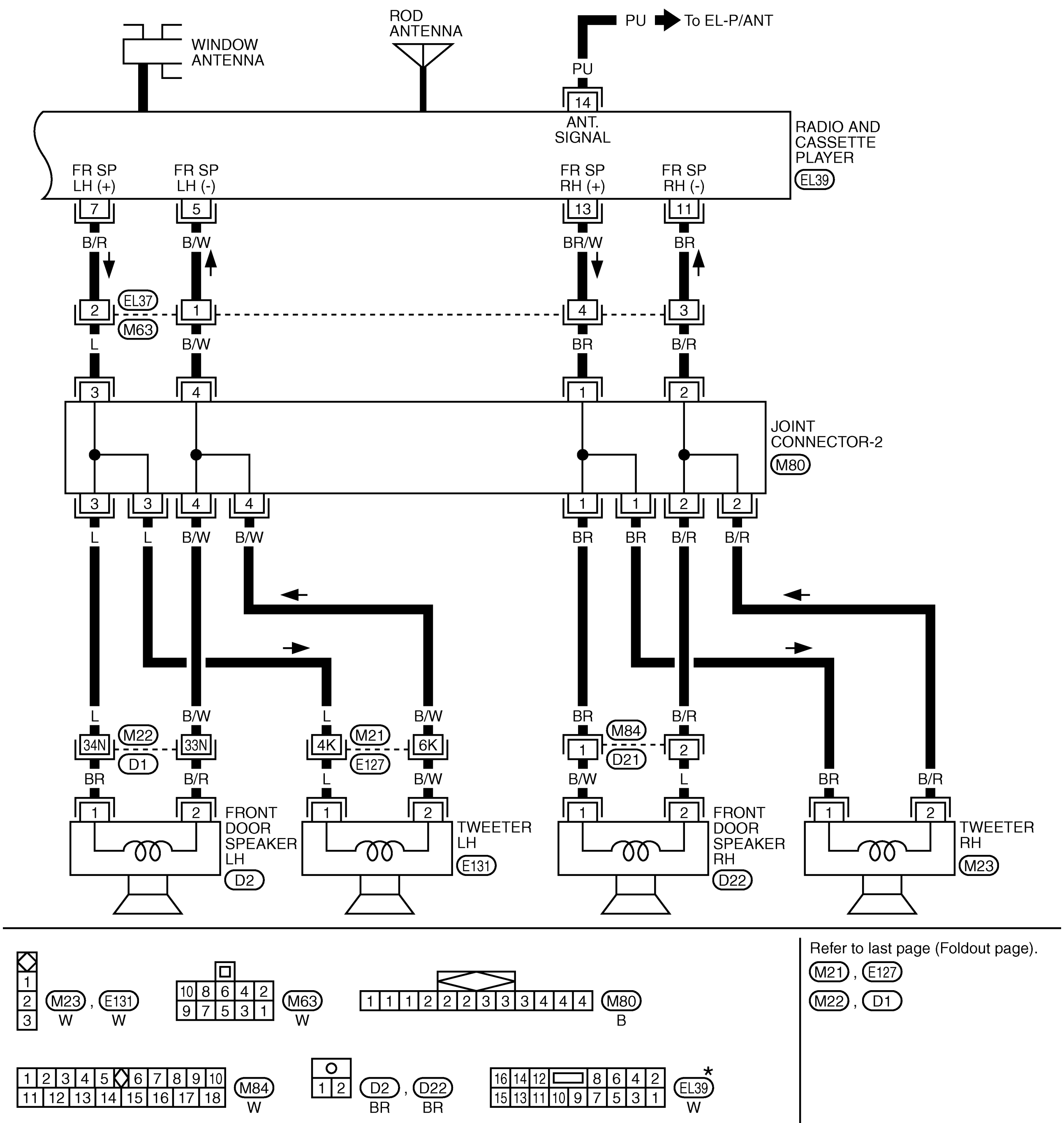
TYPE B
LW-MW-FM tuner radio with sub-harness



TEL552M

Wiring Diagram — AUDIO —/LHD Models Except for Europe (Cont'd)

EL-AUDIO-04



Refer to last page (Foldout page).

M21, E127

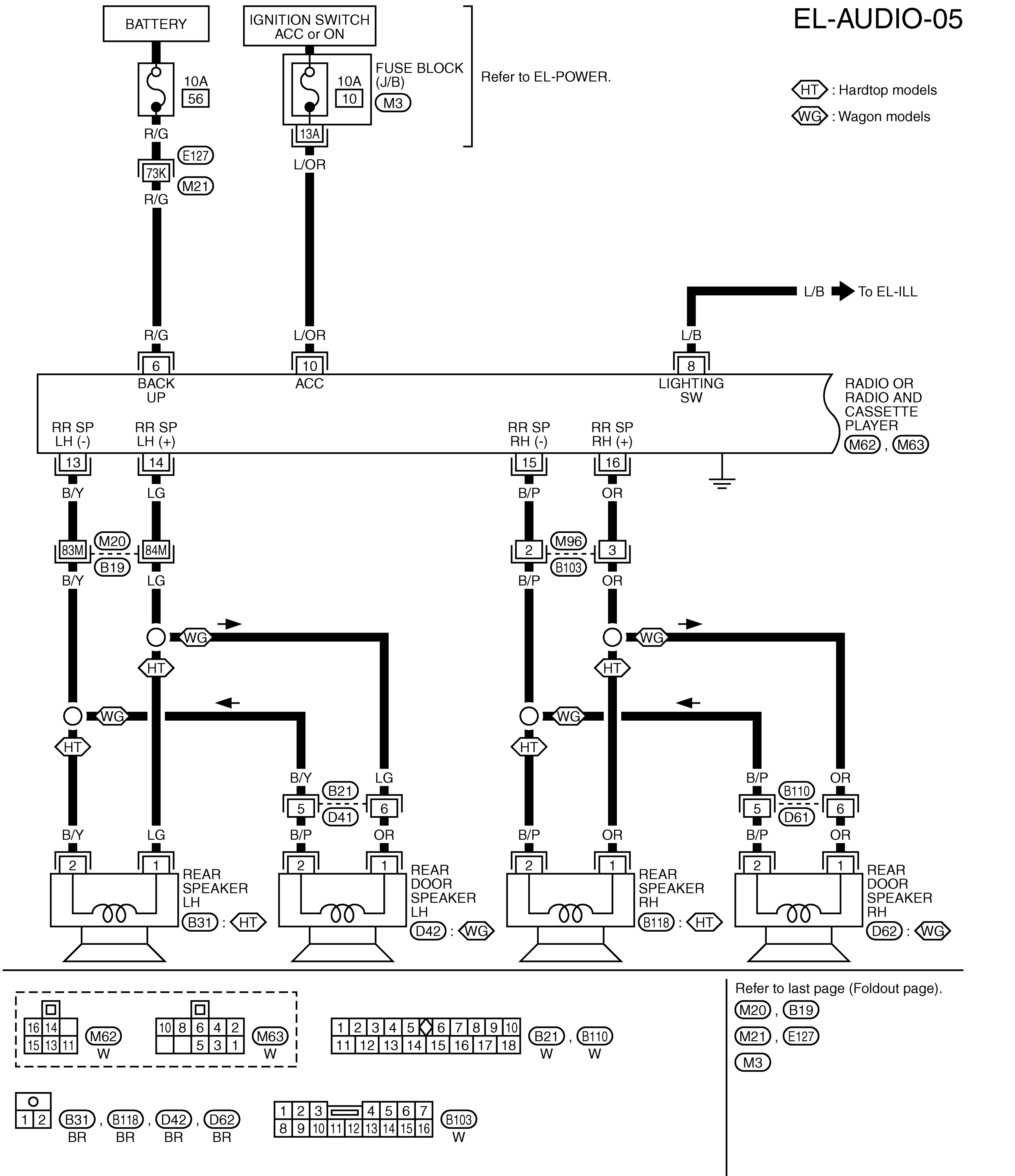
M22, D1

*: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL553M

Wiring Diagram — AUDIO —/LHD Models Except for Europe (Cont'd)

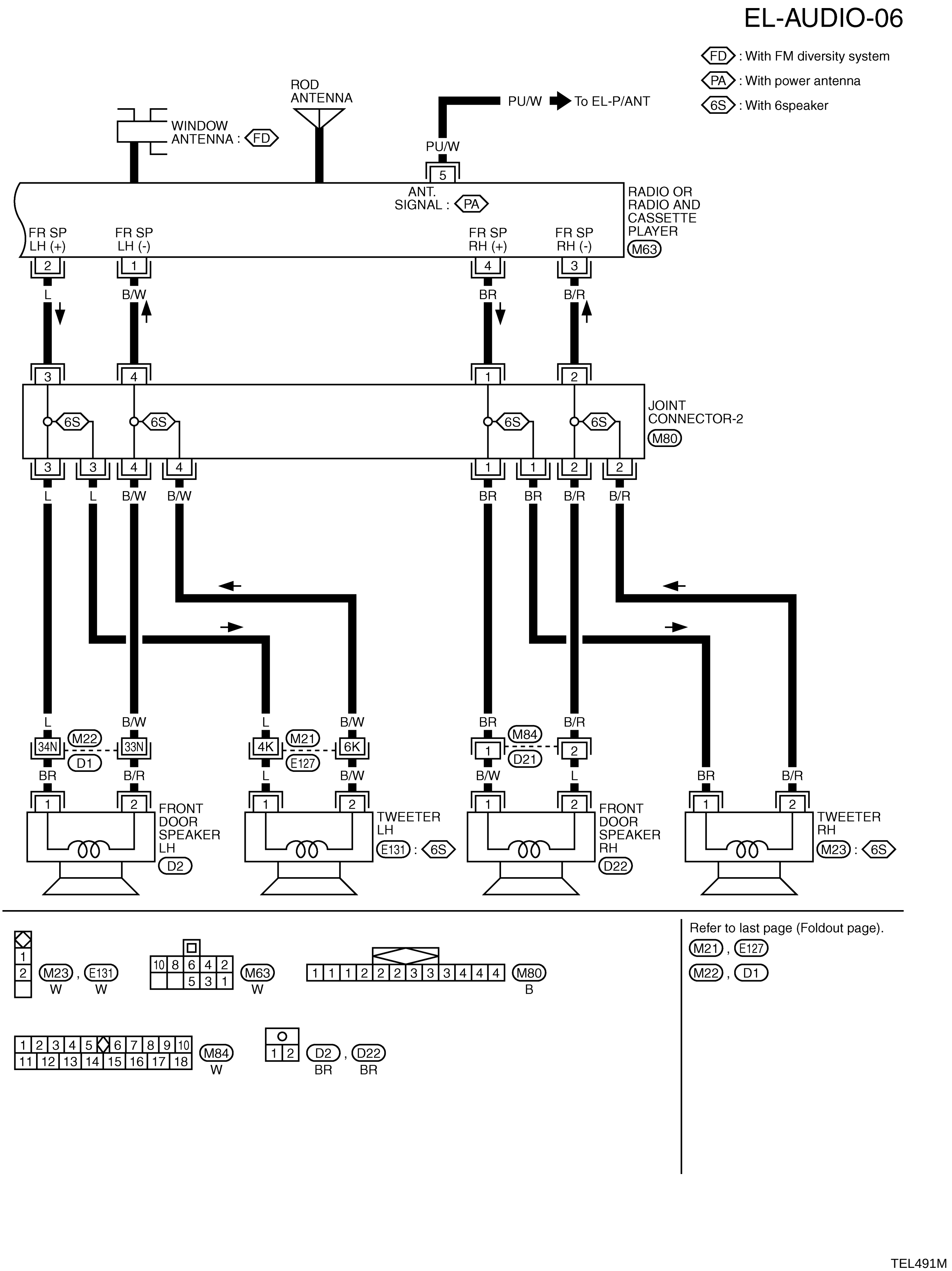
TYPE C
Without sub-harness



TEL490M

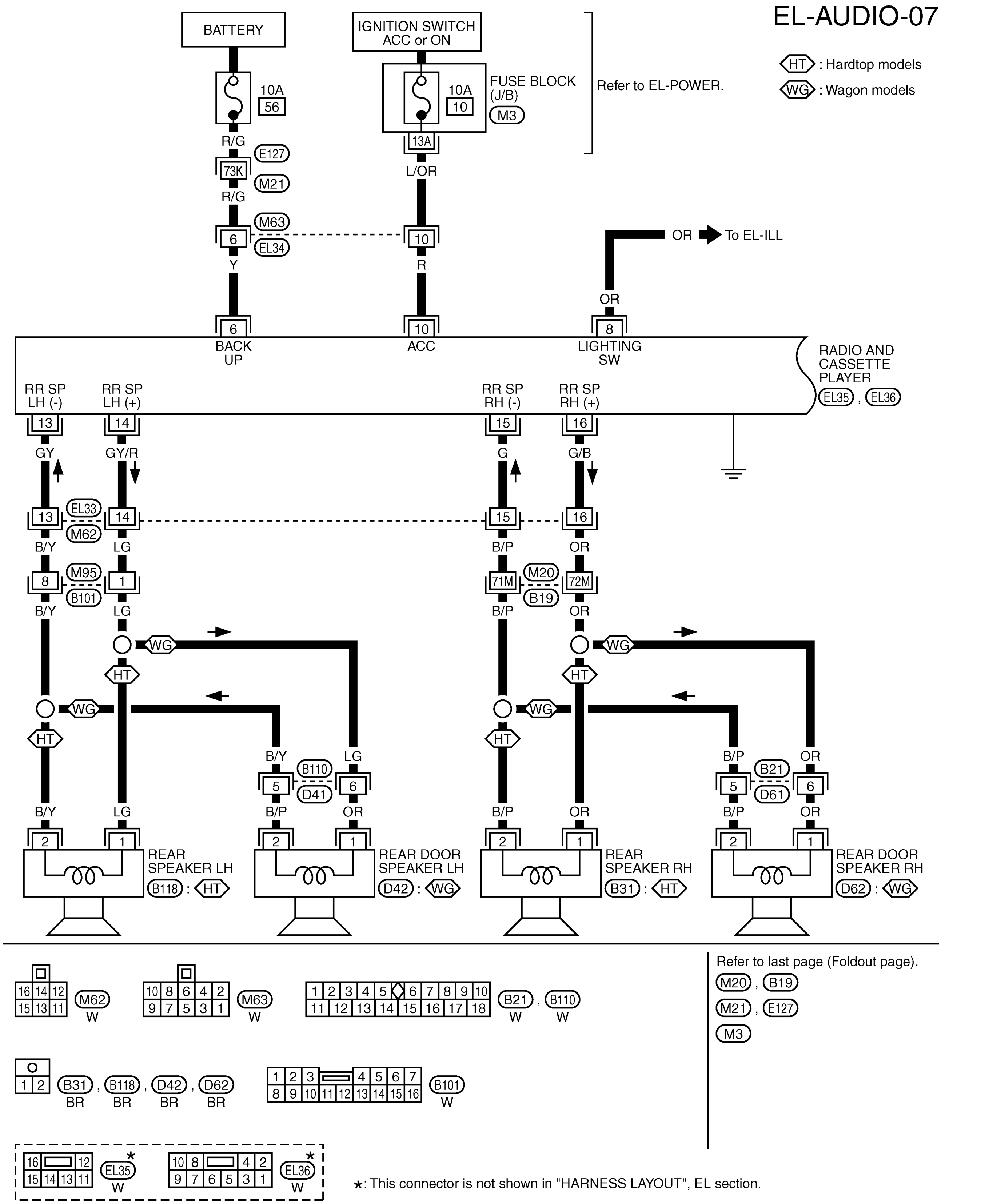
Wiring Diagram — AUDIO —/LHD Models Except for Europe (Cont'd)

EL-AUDIO-06



Wiring Diagram — AUDIO —/RHD Models Except for Europe

TYPE A
FM-AM tuner radio with sub-harness

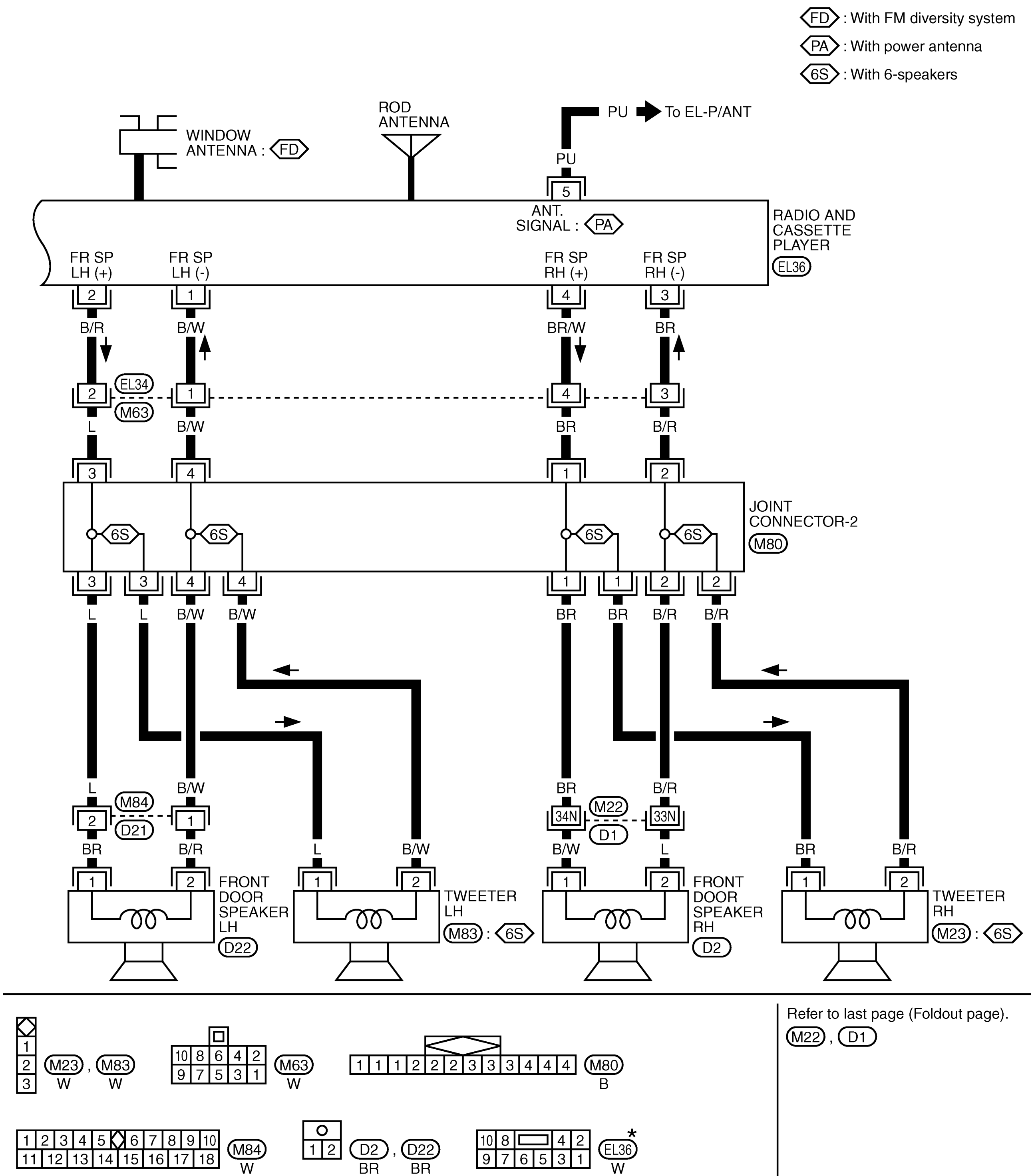


*: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL554M

Wiring Diagram — AUDIO —/RHD Models Except for Europe (Cont'd)

EL-AUDIO-08



Refer to last page (Foldout page).

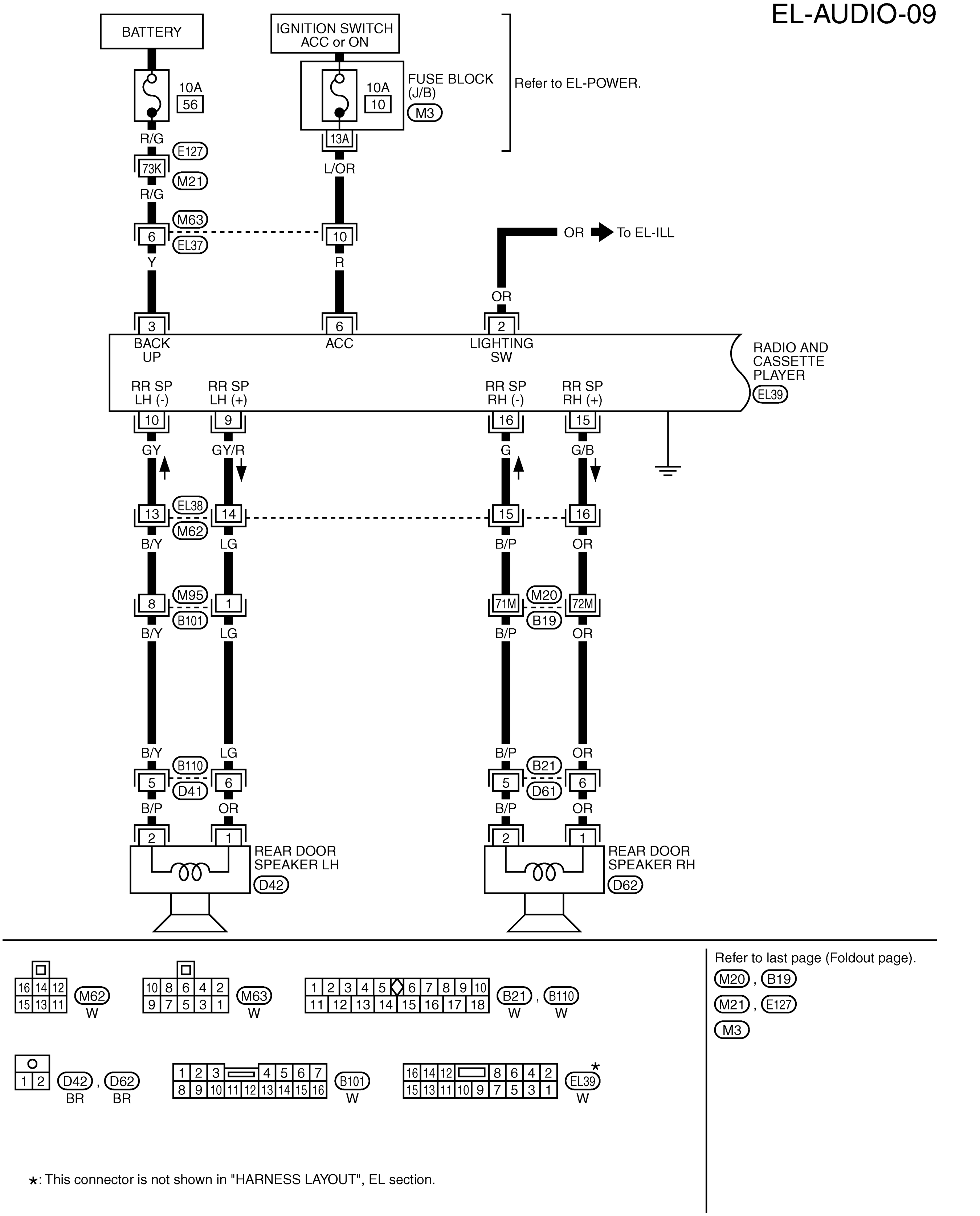
M22, D1

*: This connector is not shown in "HARNESS LAYOUT", EL section.

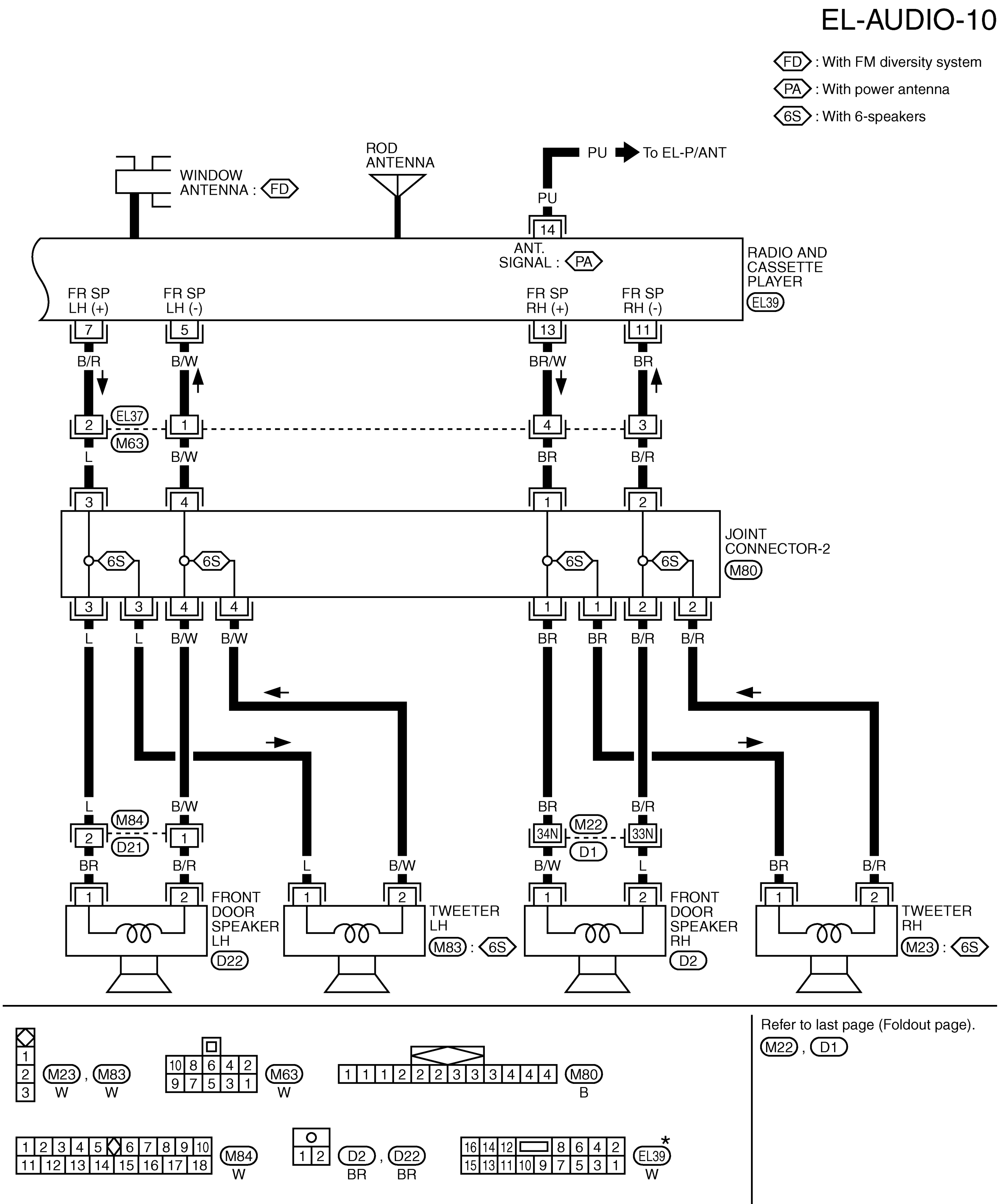
TEL555M

Wiring Diagram — AUDIO —/RHD Models Except for Europe (Cont'd)

TYPE B
LW-MW-FM tuner radio with sub-harness



Wiring Diagram — AUDIO —/RHD Models Except for Europe (Cont'd)



Refer to last page (Foldout page).

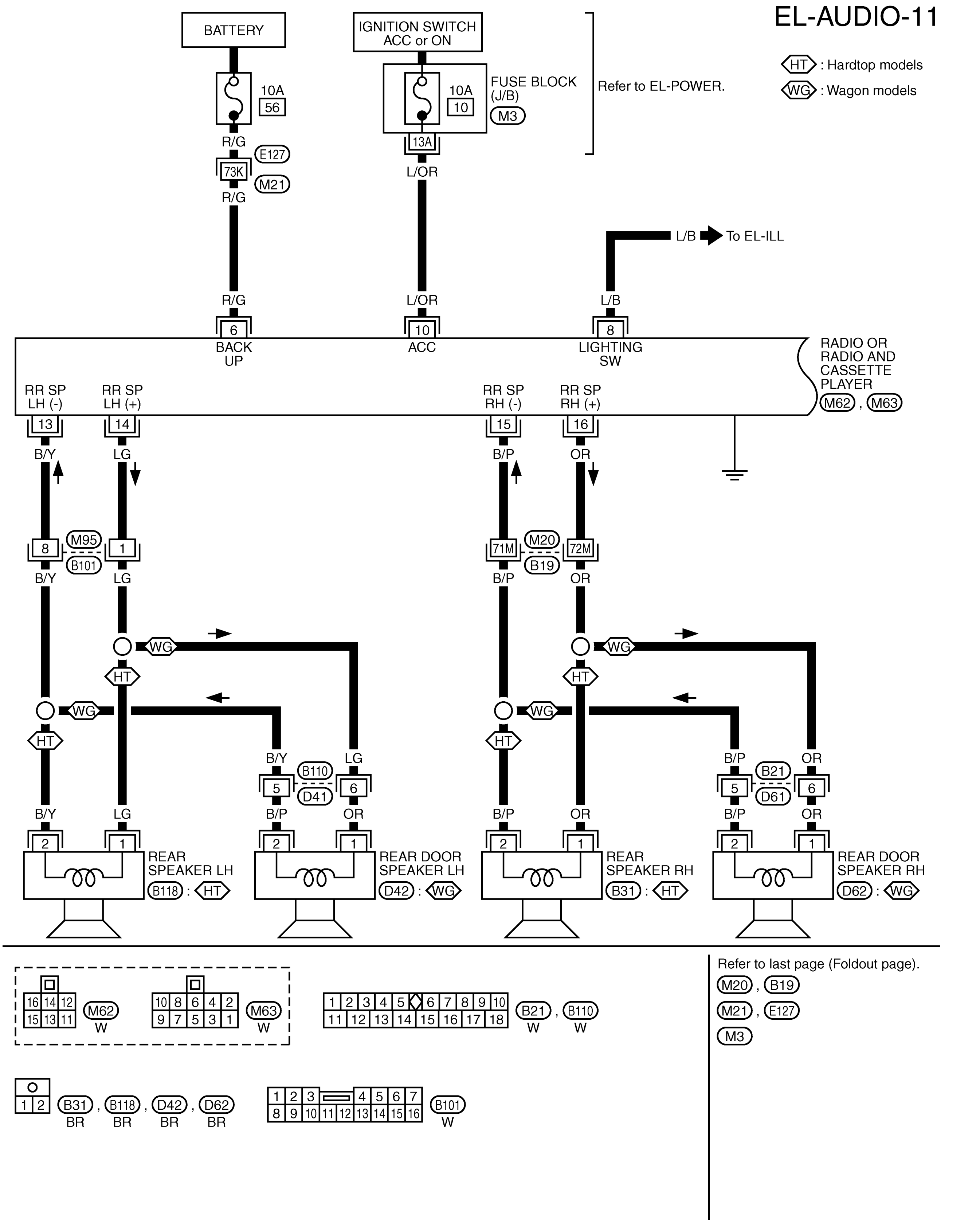
M22 , D1

*: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL557M

Wiring Diagram — AUDIO —/RHD Models Except for Europe (Cont'd)

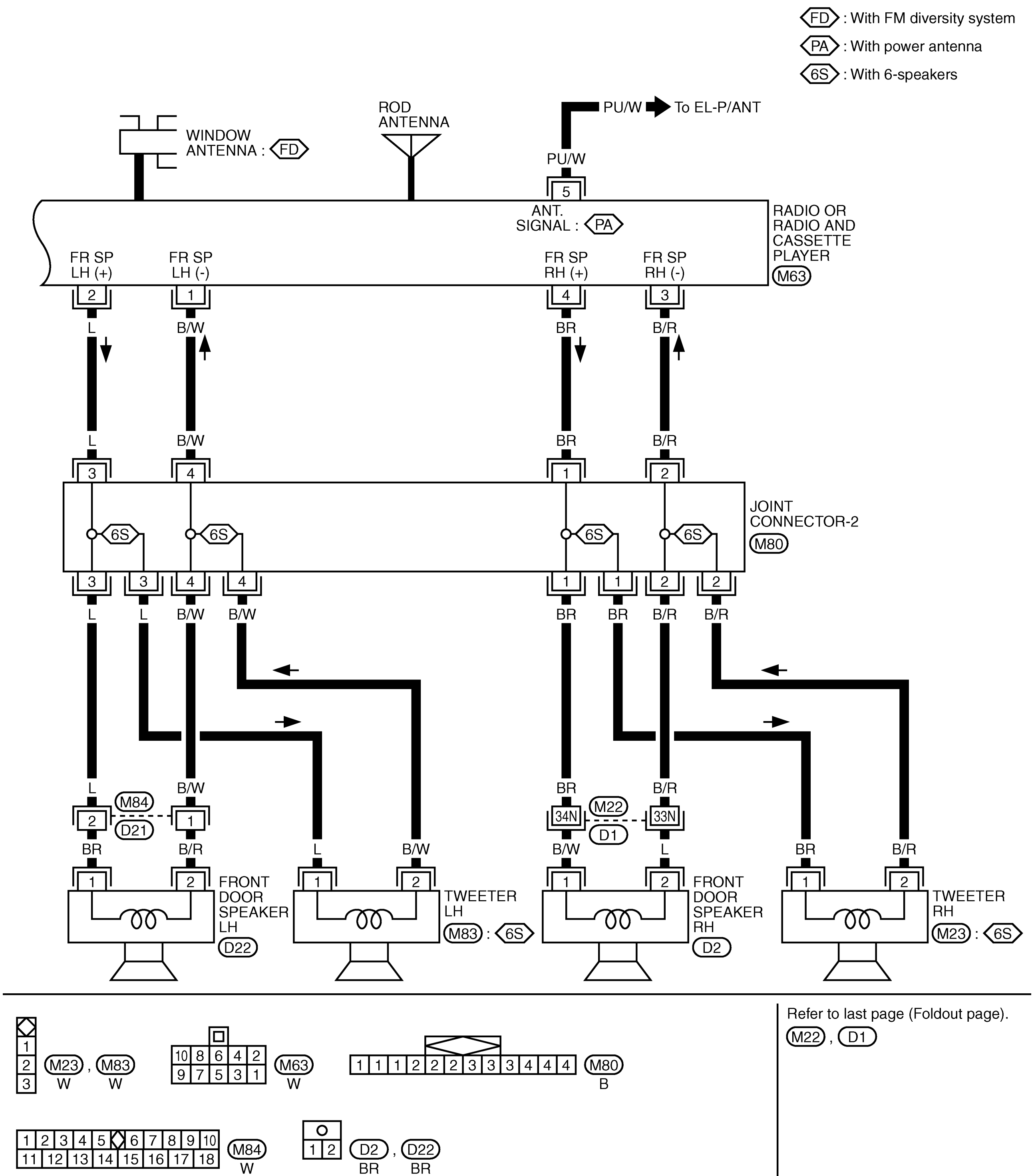
TYPE C
Without sub-harness



TEL558M

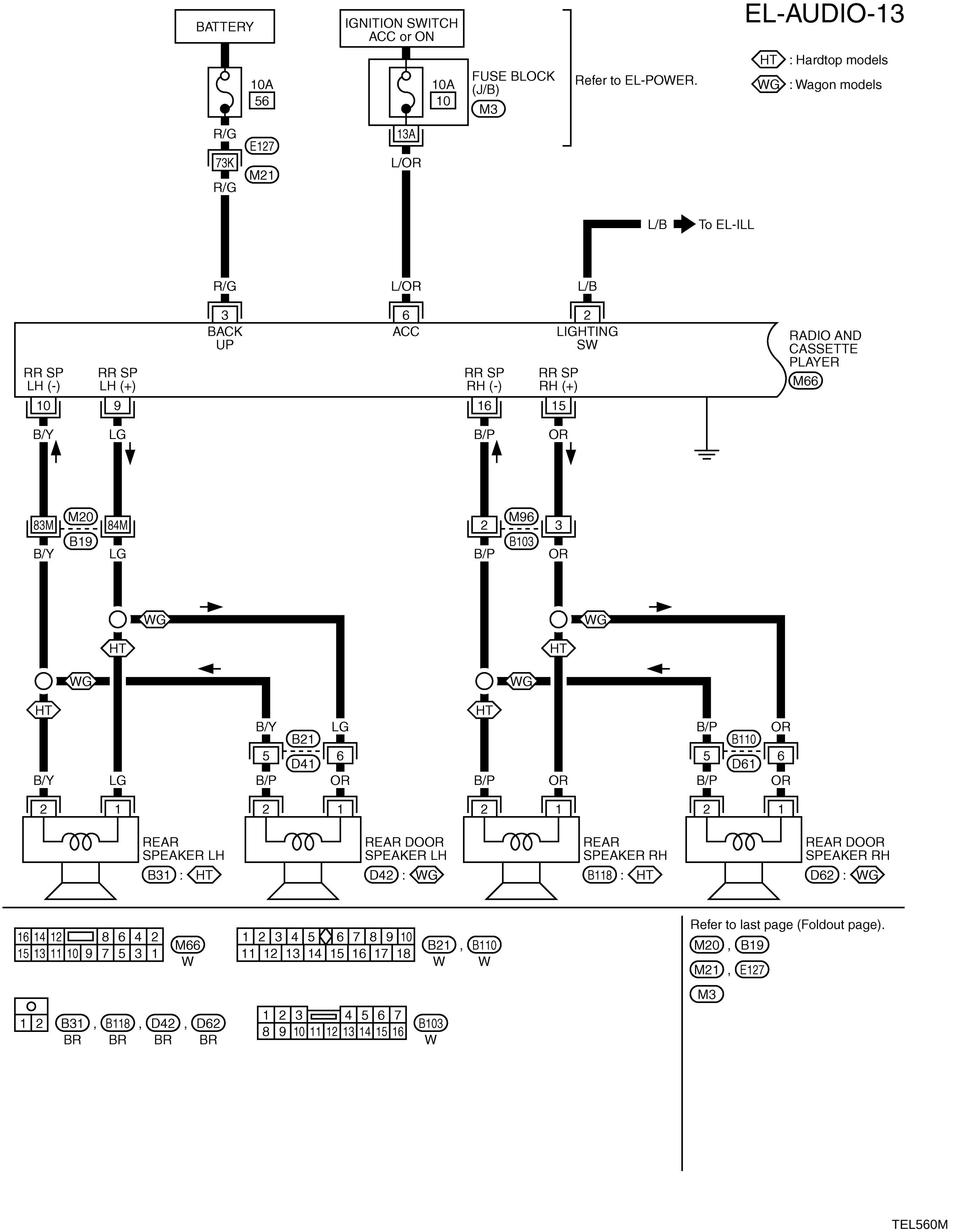
Wiring Diagram — AUDIO —/RHD Models Except for Europe (Cont'd)

EL-AUDIO-12

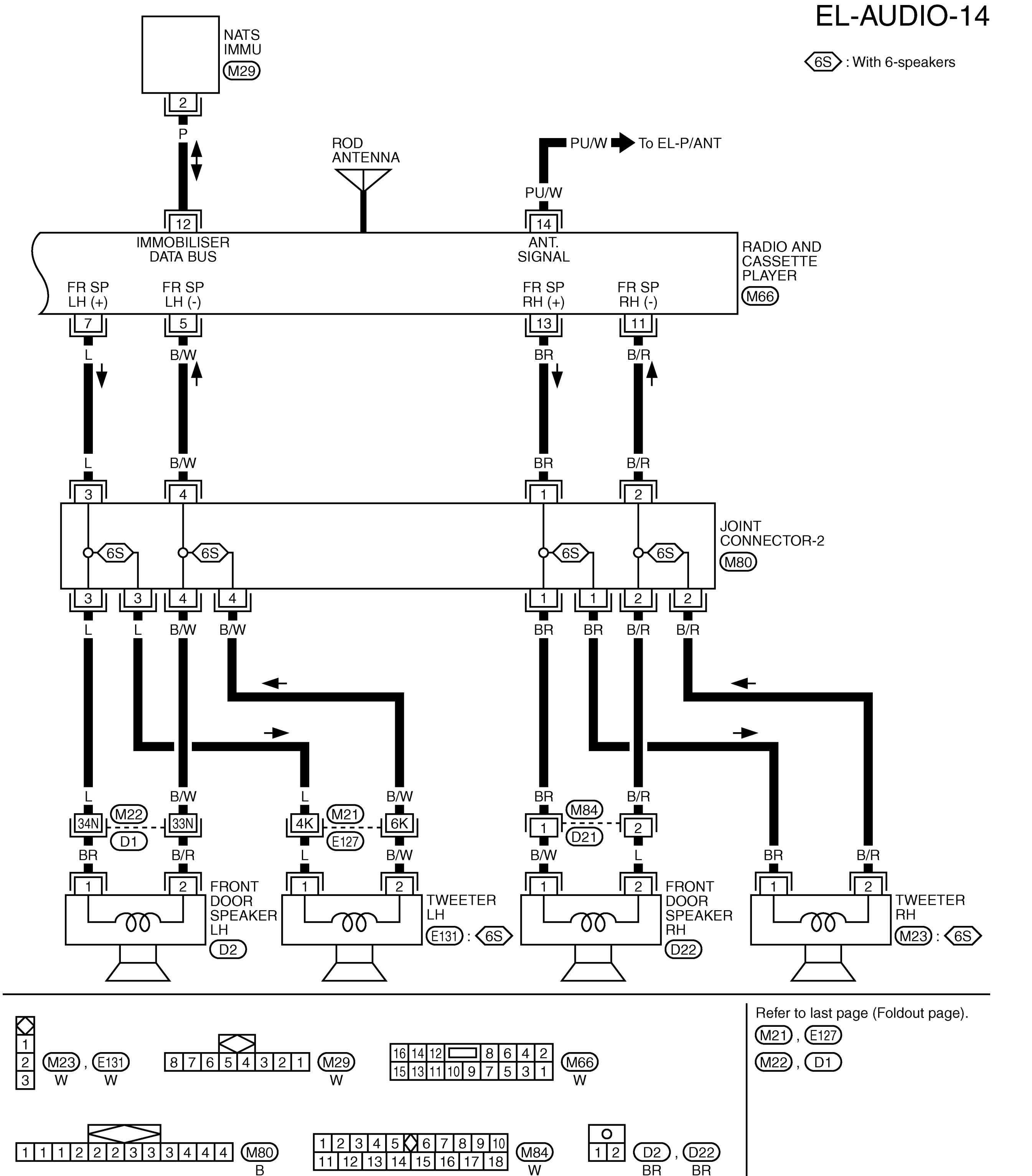


TEL559M

Wiring Diagram — AUDIO —/LHD Models for Europe

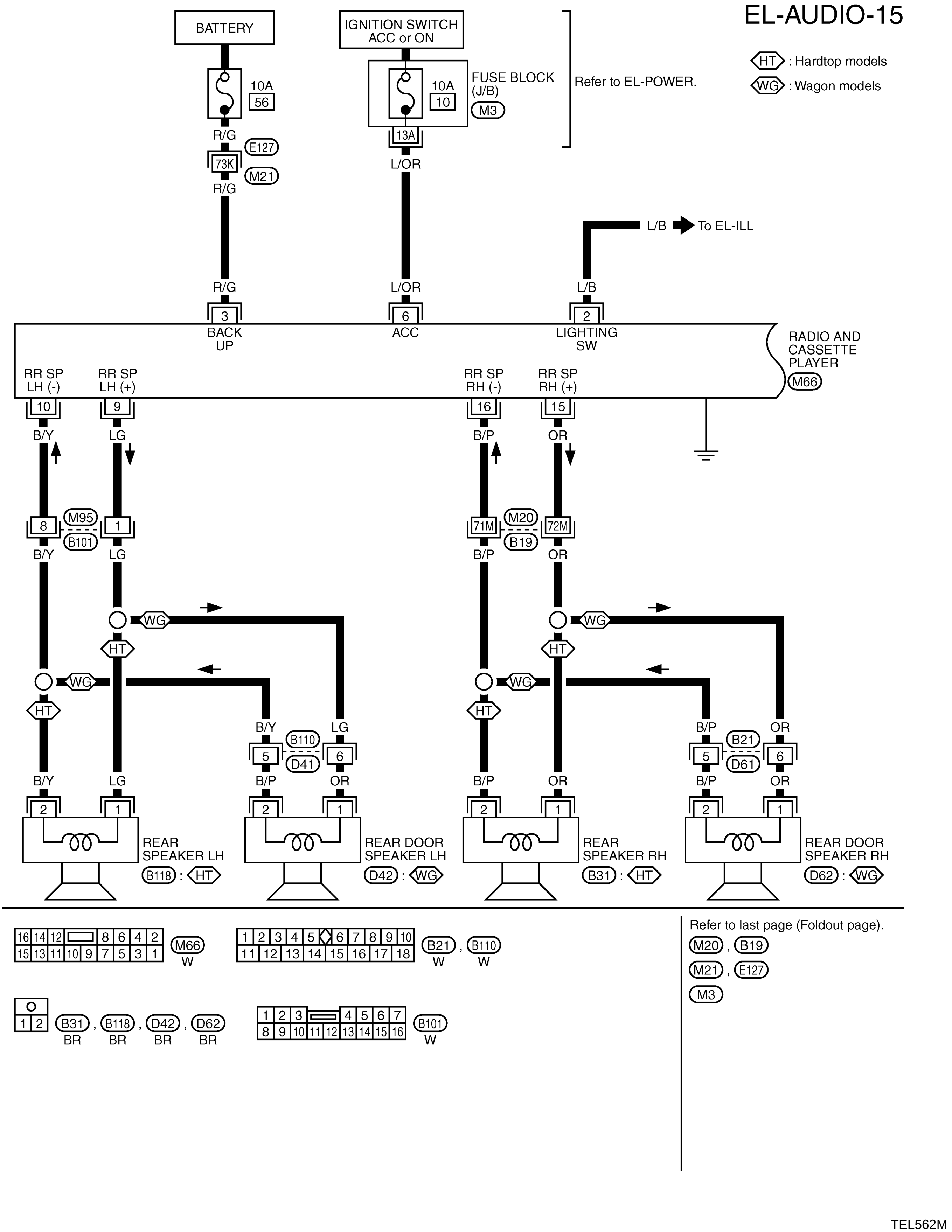


Wiring Diagram — AUDIO —/LHD Models for Europe (Cont'd)

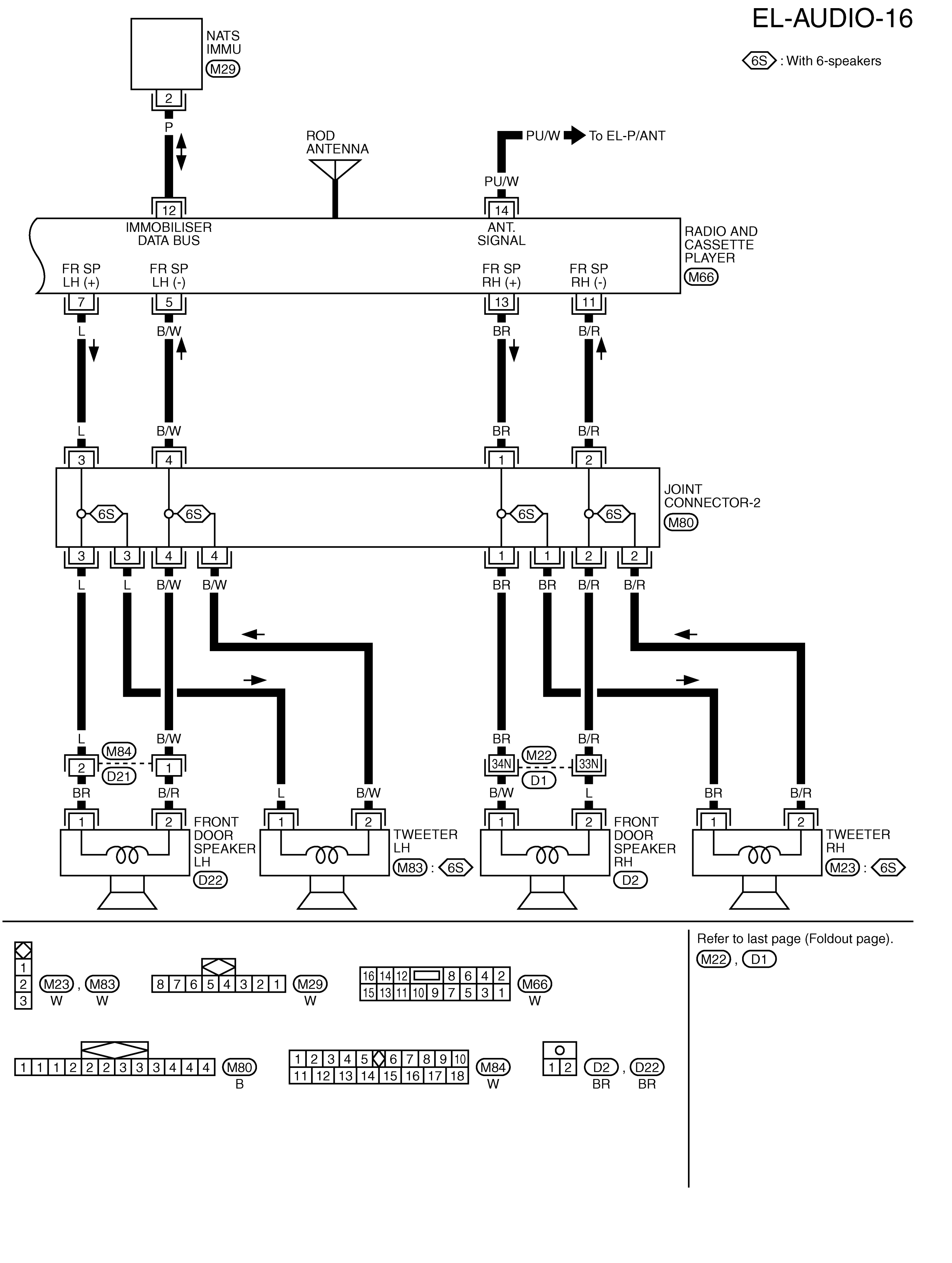


TEL561M

Wiring Diagram — AUDIO —/RHD Models for Europe

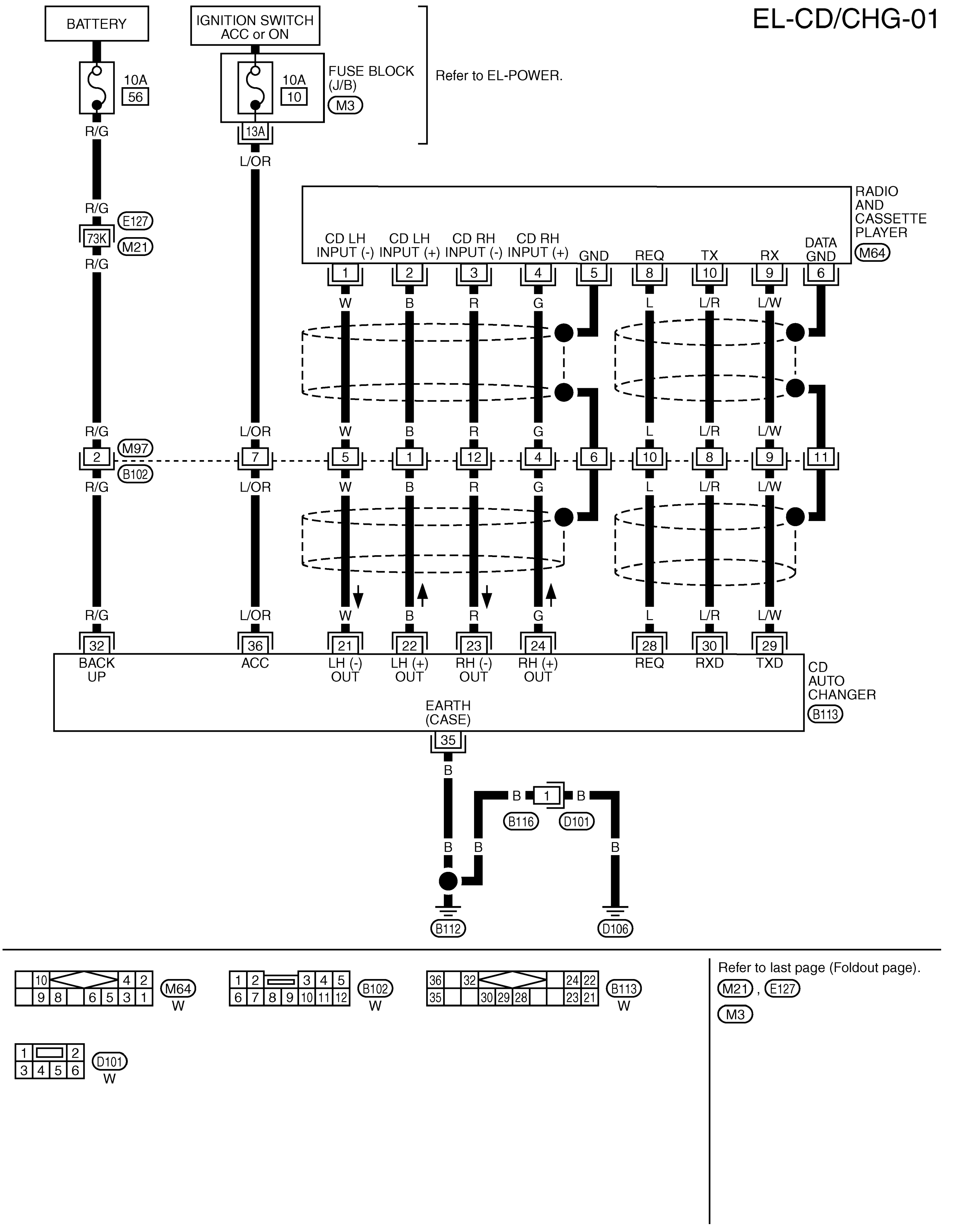


Wiring Diagram — AUDIO —/RHD Models for Europe (Cont'd)



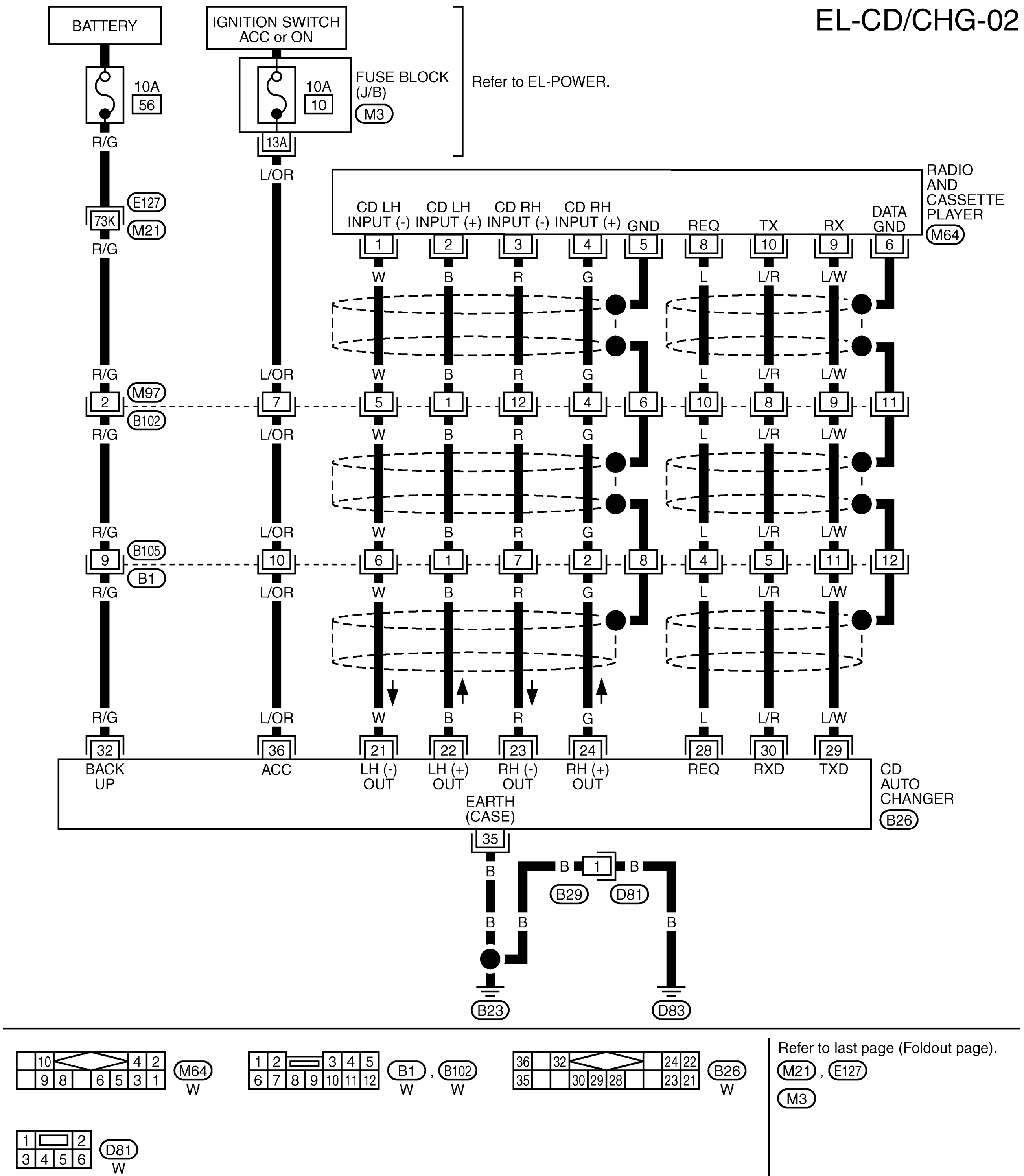
Wiring Diagram — CD/CHG —/LHD Wagon

EL-CD/CHG-01



Wiring Diagram — CD/CHG —/LHD Hardtop

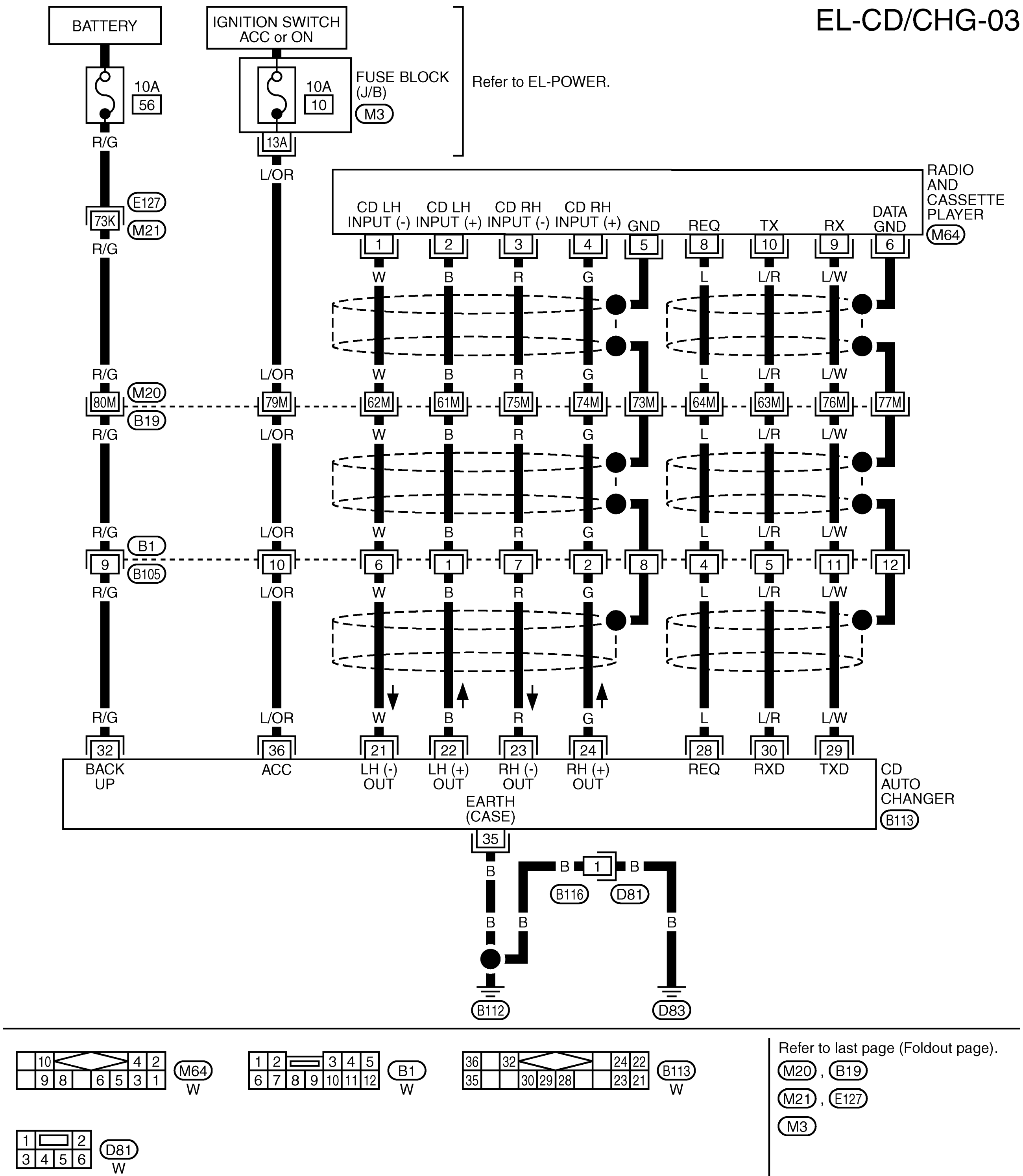
EL-CD/CHG-02



TEL454M

Wiring Diagram — CD/CHG —/RHD Hardtop

EL-CD/CHG-03



Refer to last page (Foldout page).

M20, B19

M21, E127

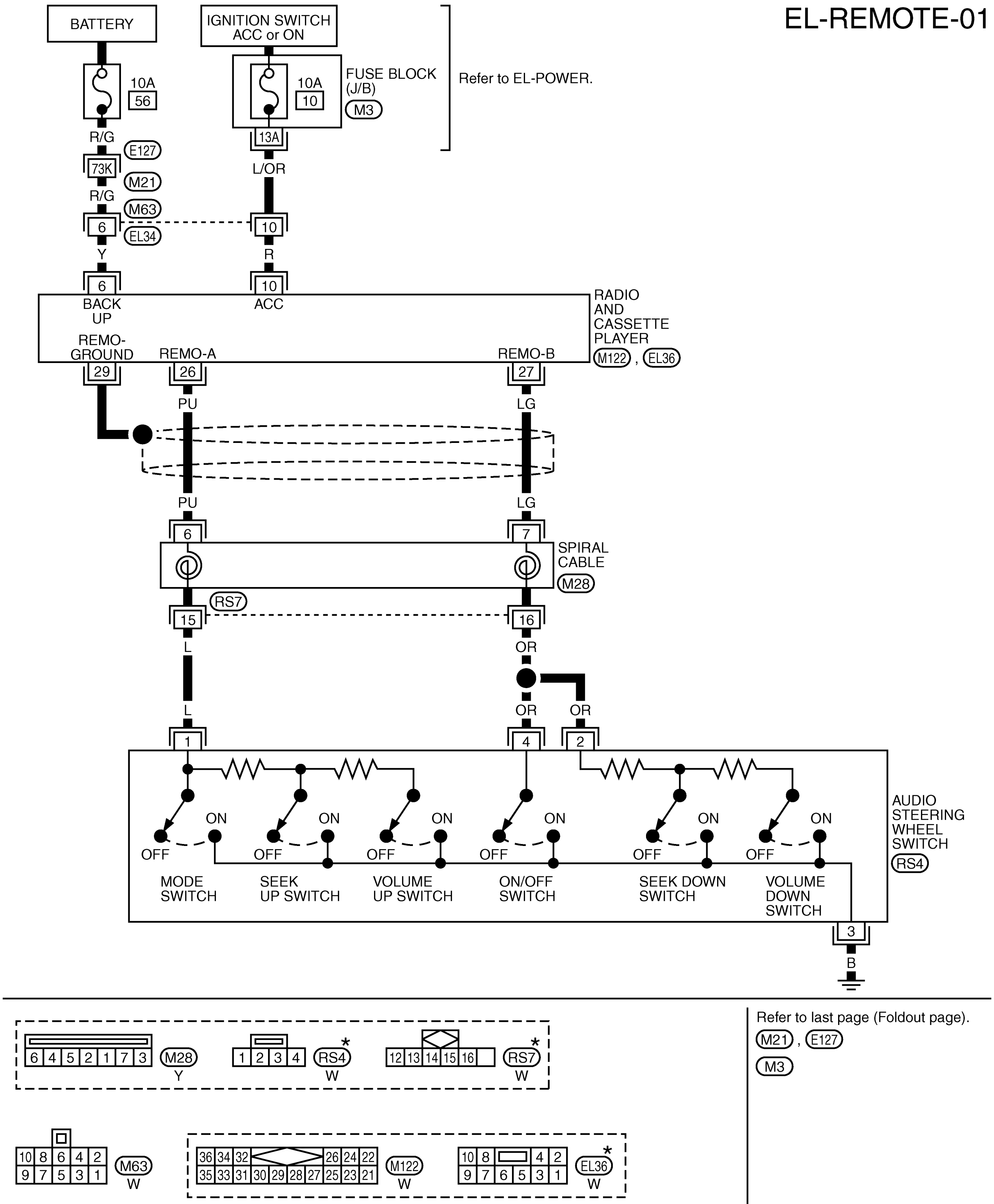
M3

TEL455M

Wiring Diagram — REMOTE —

FM-AM TUNER RADIO WITH SUB-HARNESS

EL-REMOTE-01



Refer to last page (Foldout page).

M21 , E127

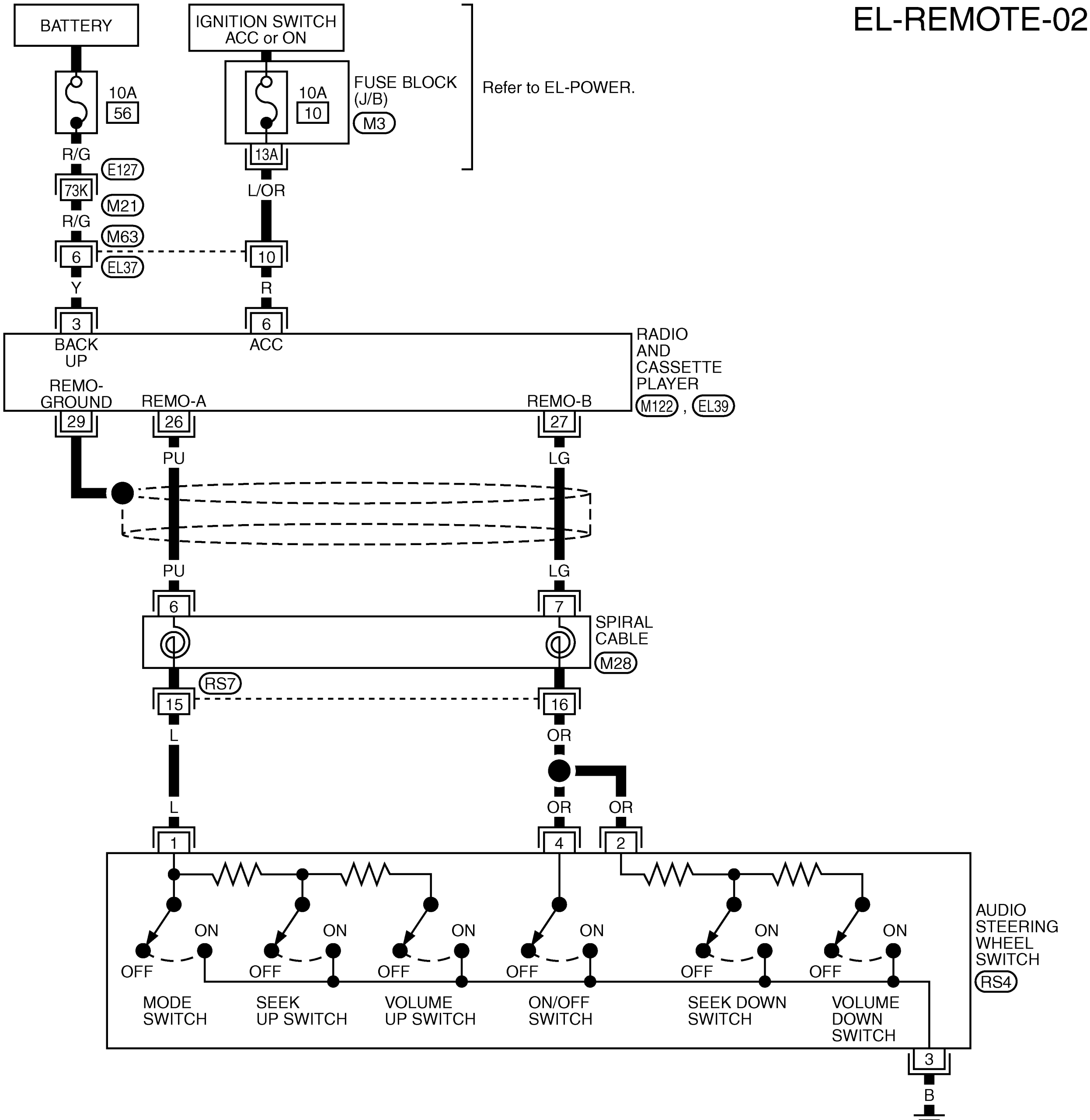
M3

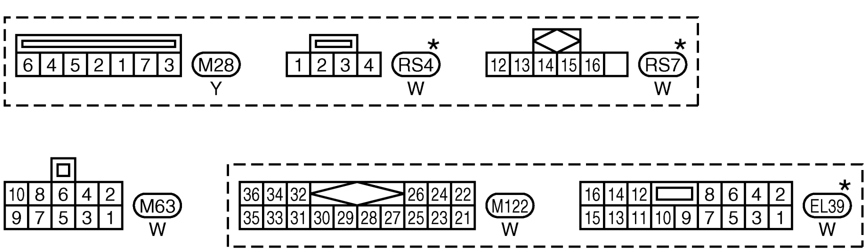
*: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL564M

LW-MW-FM TUNER RADIO WITH SUB-HARNESS

EL-REMOTE-02





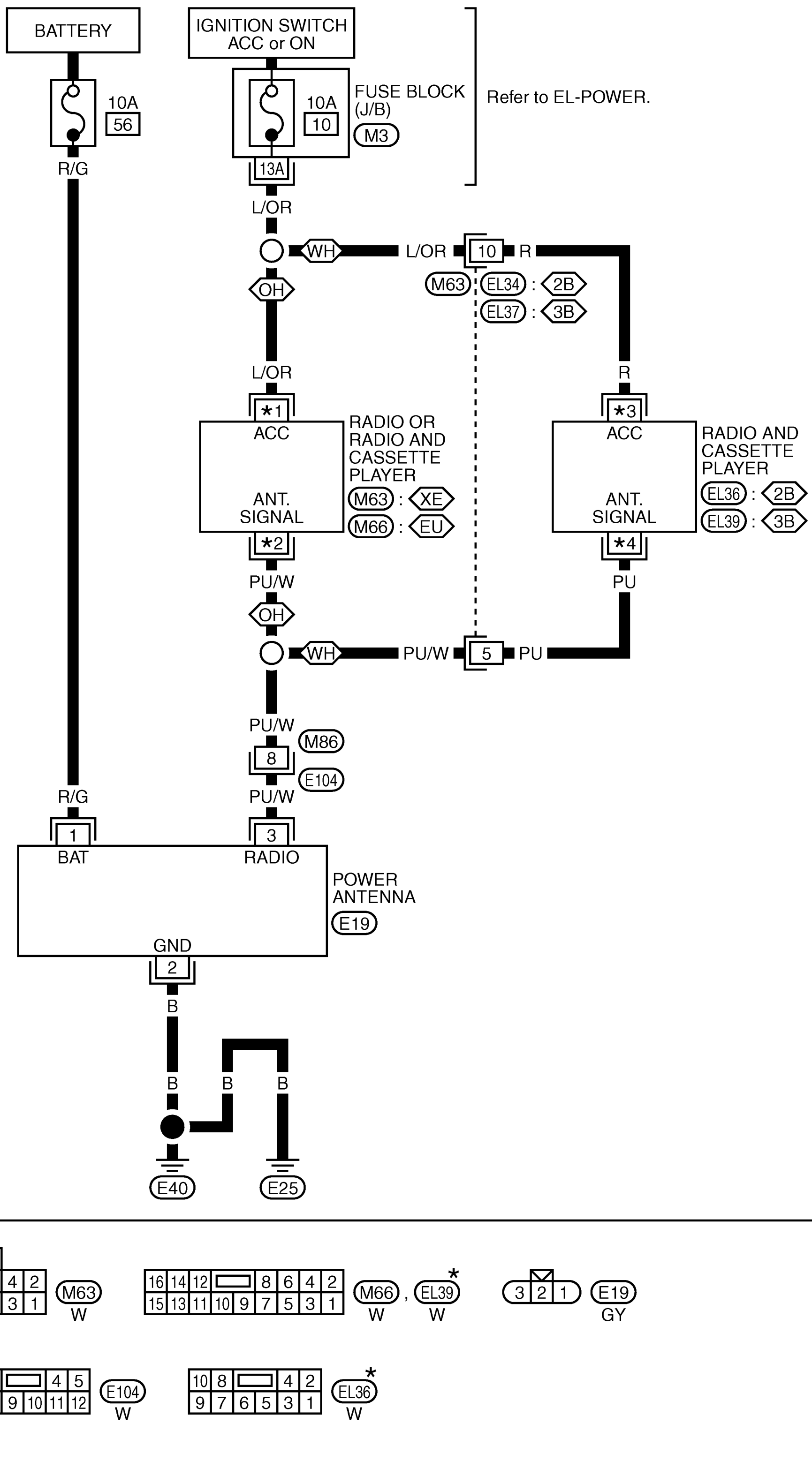
Refer to last page (Foldout page).
M21 , E127
M3

*: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL565M

Wiring Diagram — P/ANT —/LHD Models

EL-P/ANT-01



EU : For Europe
XE : Except for Europe
2B : FM-AM tuner radio
3B : LW-MW-FW tuner radio
WH : With sub-harness
OH : Without sub-harness

*1 6 : EU
10 : XE
*2 14 : EU
5 : XE
*3 10 : 2B
6 : 3B
*4 5 : 2B
14 : 3B

Connectors: M63 W, M66 W, EL39* W, E19 GY, E104 W, EL36* W

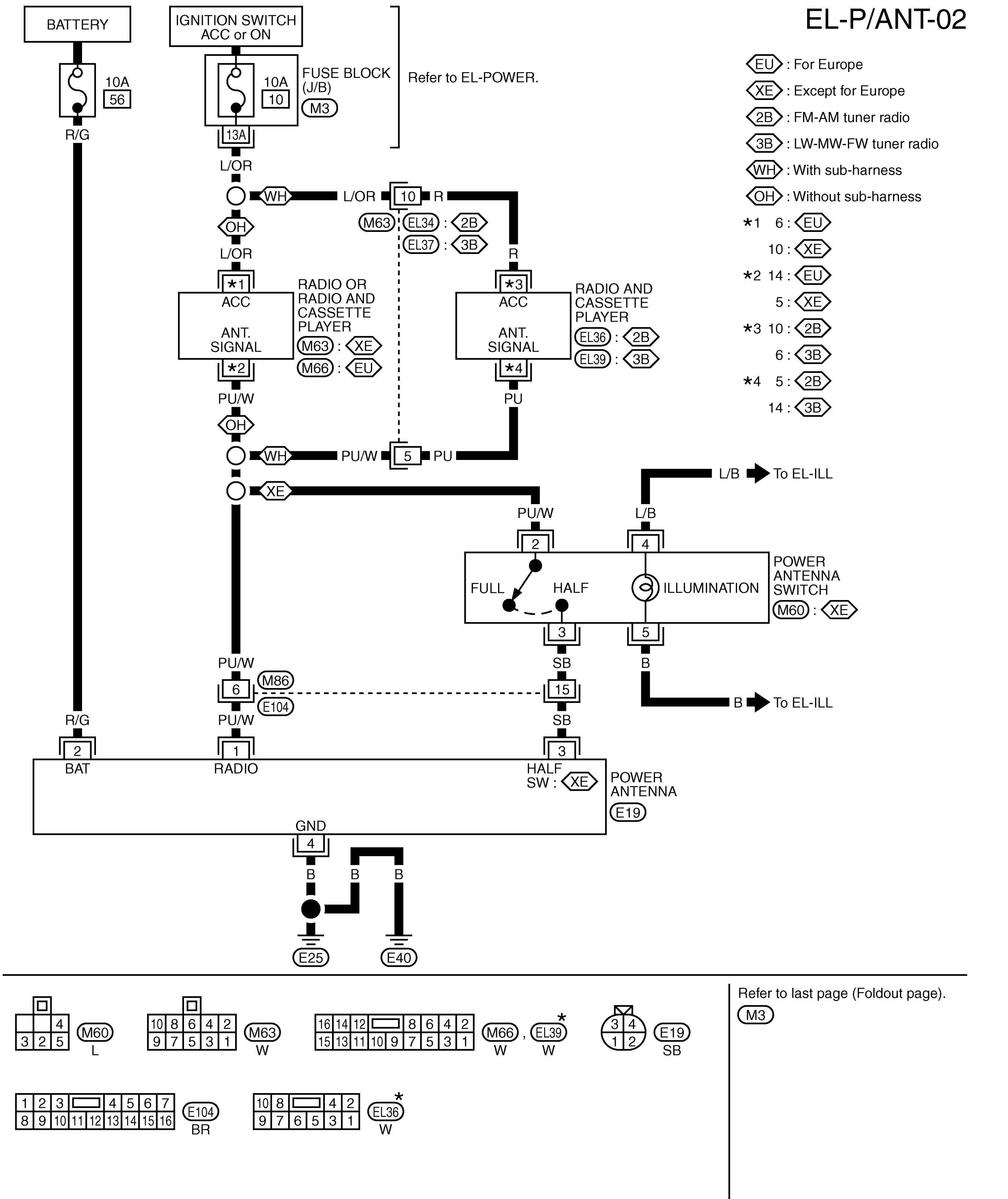
Refer to last page (Foldout page).
M3

*: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL566M

Wiring Diagram — P/ANT —/RHD Models

EL-P/ANT-02



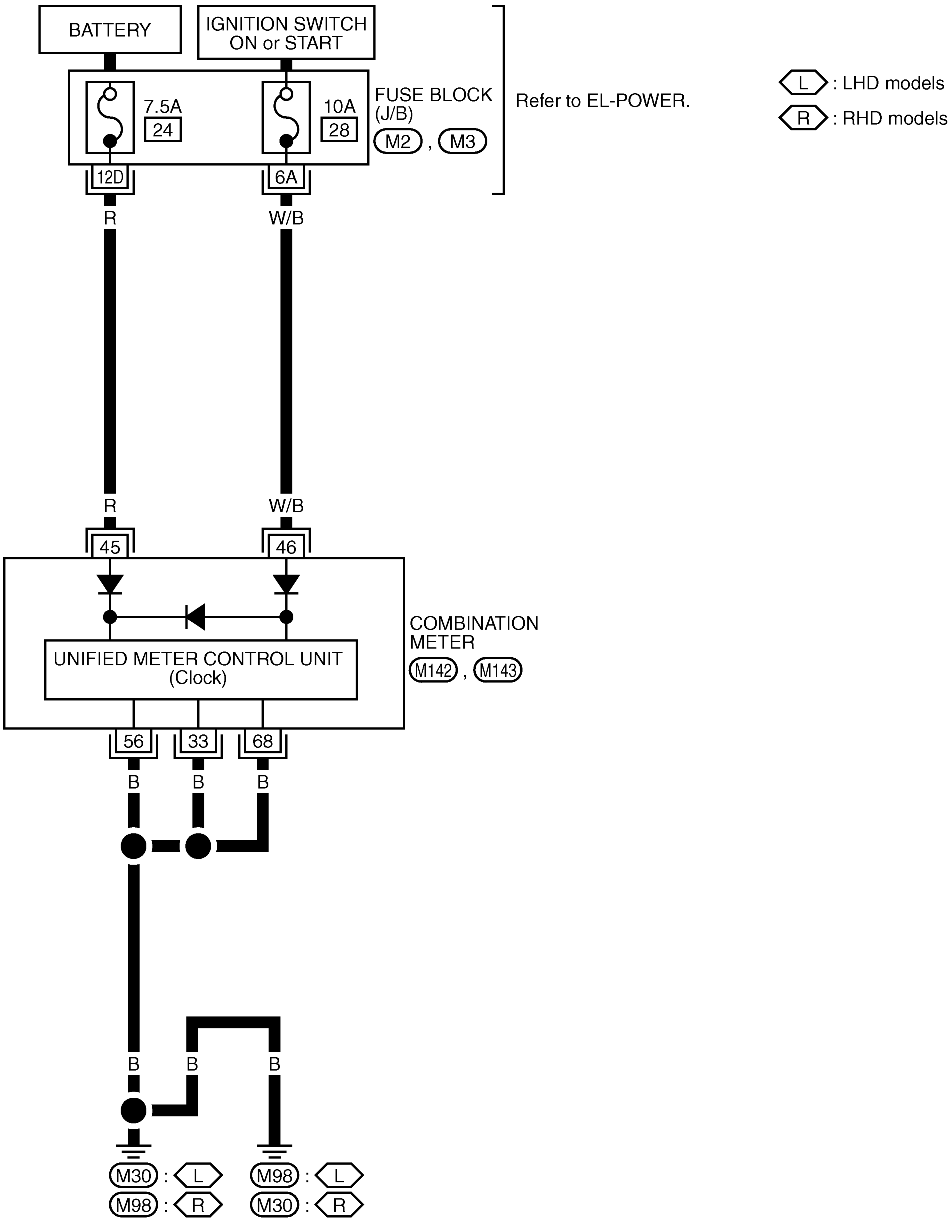
Refer to last page (Foldout page).
M3

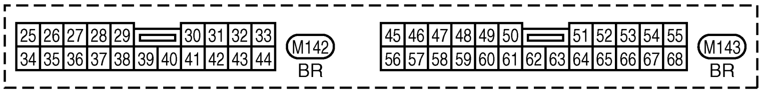
*: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL567M

Wiring Diagram — CLOCK —/Except for Europe

EL-CLOCK-01

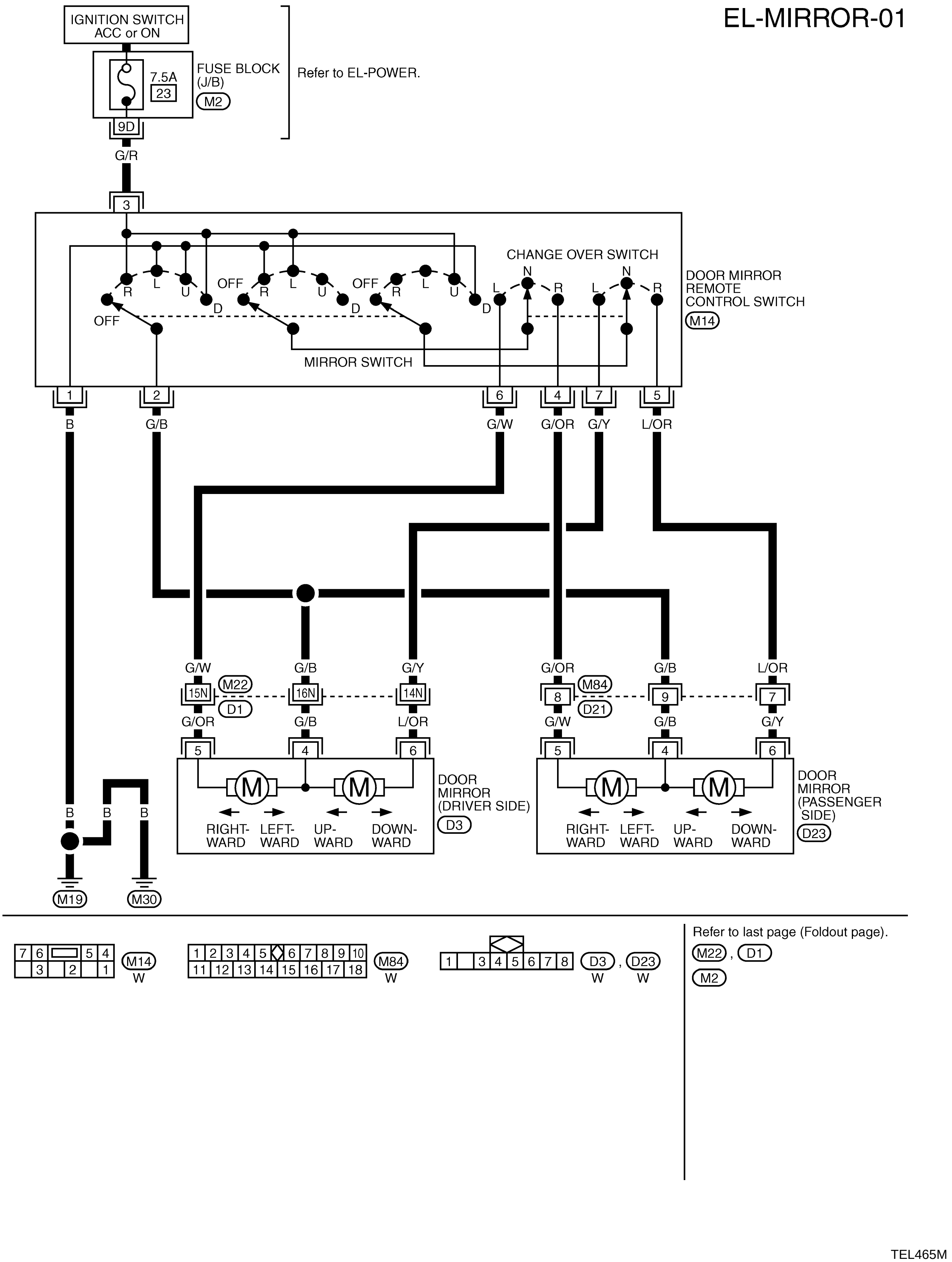




Refer to last page (Foldout page).
M2
M3

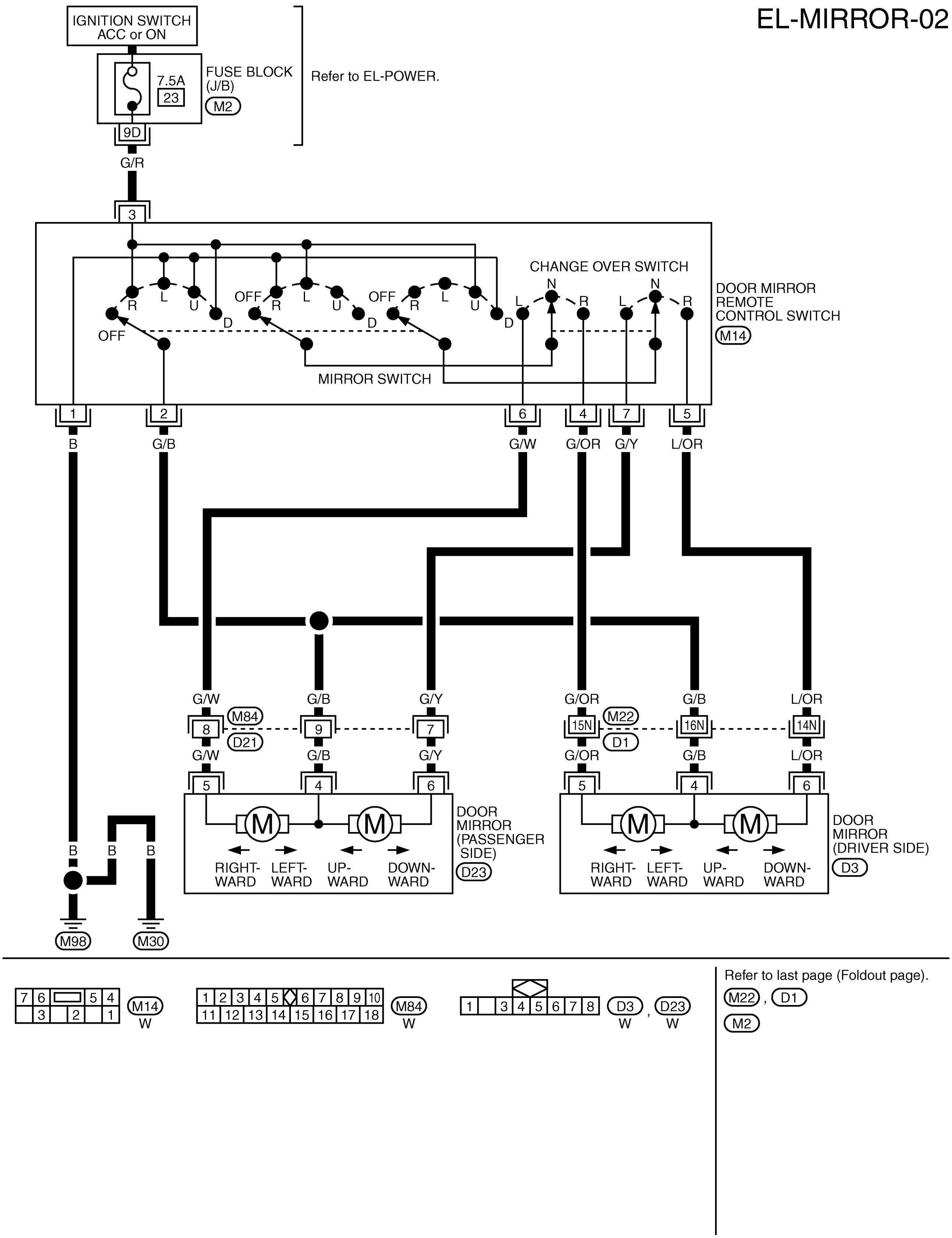
TEL621M

Wiring Diagram — MIRROR —/LHD Models



Wiring Diagram — MIRROR —/RHD Models

EL-MIRROR-02



TEL466M

System Description/TB48 Engine Models

Refer to Owner's Manual for ASCD operating instructions.

POWER SUPPLY AND GROUND

- through 7.5A fuse [No. 8, located in the fuse block (J/B)]
- to ASCD clutch switch terminal 1
- (M/T models) or PARK/NEUTRAL position relay-2 terminals 1 and 3, and
- to manual mode position relay terminal 1 (A/T models),
- to ASCD control unit terminal 5, and

Power is supplied at all times:
- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to the stop lamp switch terminal 1, and

When ASCD main switch is depressed (ON), ground is supplied:
- to ASCD control unit terminal 11
- from ASCD steering switch terminal 1
- to ASCD steering switch terminal 2
- from ASCD control unit terminal 24.

then ASCD control unit holds CRUISE condition and illuminates CRUISE indicator.
Ground is supplied:
- to combination meter terminal 53
- from ASCD control unit terminal 15.

OPERATION

Set Operation

To activate the ASCD, all of following conditions must exist.
- Ground supply to ASCD control unit terminal 11
- Power supply to ASCD control unit terminal 8 [Brake and clutch pedal is released (M/T models), and brake pedal is released and A/T selector lever is shifted to D position. (A/T models)]
- TB48DE Engine models for the Middle East: Vehicle speed is between 48 km/h (30 MPH) and 200 km/h (124 MPH). (Signal from combination meter)
- Except for the Middle East: Vehicle speed is between 48 km/h (30 MPH) and 128 km/h (80 MPH). (Signal from combination meter)

When the SET/COAST switch is depressed, power is supplied:
- from ASCD steering switch terminal 2
- to ASCD control unit terminal 24.

And then ASCD pump is activated to control throttle wire and ASCD control unit supply ground
- to combination meter terminals 50 to illuminate SET indicator.

Coast Operation

When the SET/COAST switch is depressed during cruise control driving, ASCD actuator returns the throttle cable to decrease vehicle set speed until the switch is released. And then ASCD will keep the new set speed.

Accel Operation

When the RESUME/ACCEL switch is depressed, power is supplied
- from ASCD steering switch terminal 2
- to ASCD control unit terminal 24.

If the RESUME/ACCEL switch is depressed during cruise control driving, ASCD actuator pulls the throttle cable to increase the vehicle speed until the switch is released or vehicle speed is reached to maximum controlled speed by the system. And then ASCD will keep the new set speed.

Cancel Operation

When any of following condition exists, cruise operation will be canceled.
- CANCEL switch is depressed. (Power supply to ASCD control unit terminal 24)
- Brake pedal is depressed. (Power supply to ASCD control unit terminal 23 from stop lamp switch)
- Brake or clutch pedal is depressed (M/T models), brake pedal is depressed or A/T selector lever is shifted to manual mode position (A/T models). (Power supply to ASCD control unit terminal 8 is interrupted.)

System Description/TB48 Engine Models (Cont’d)

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

If MAIN switch is turned to OFF during ASCD is activated, all of ASCD operation will be canceled and vehicle speed memory will be erased.

Resume Operation

When the RESUME/ACCEL switch is depressed after cancel operation other than depressing MAIN switch is performed, vehicle speed will return to last set speed. To resume vehicle set speed, vehicle condition must meet following conditions.

- Brake pedal is released.
- Clutch pedal is released (M/T models).
- A/T selector lever is shifted to D position (A/T models).
- TB48DE Engine models for the Middle East: Vehicle speed is between 48 km/h (30 MPH) and 200 km/h (124 MPH).
- Except for the Middle East: Vehicle speed is between 48 km/h (30 MPH) and 128 km/h (80 MPH).

ASCD PUMP OPERATION

The ASCD pump consists of a vacuum motor, an air valve and a release valve. When the ASCD activates, power is supplied

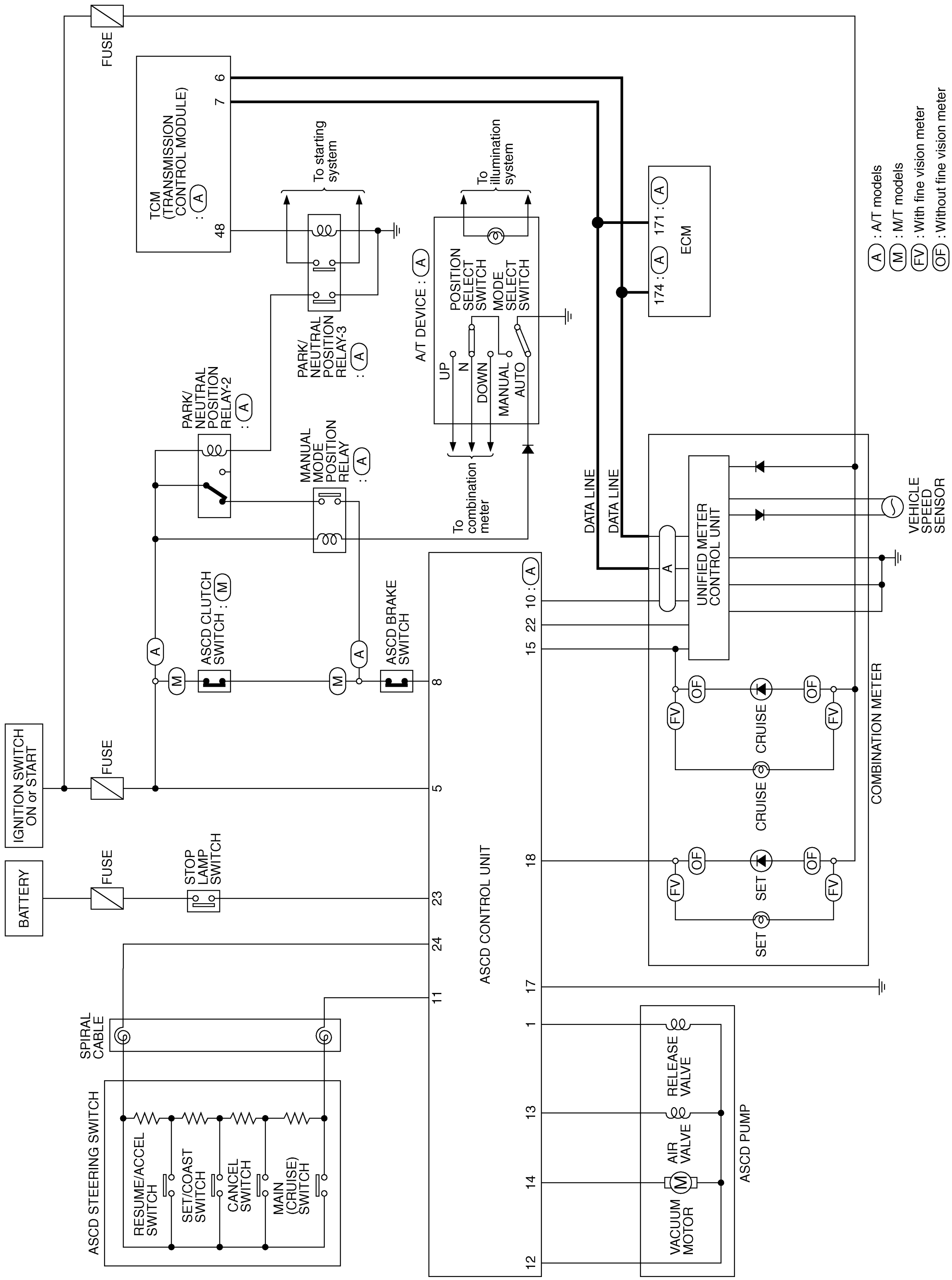
- from terminal 12 of ASCD control unit
- to ASCD pump terminal 1.

Ground is supplied to vacuum motor, air valve and release valve from ASCD control unit depending on the operated condition as shown in the below table.
The pump is connected to ASCD actuator by vacuum hose. When the ASCD pump is activated, the ASCD pump vacuum the diaphragm of ASCD actuator to control throttle cable.

		Air valve (*1)	Release valve (*1)	Vacuum motor	Actuator inner pressure
ASCD not operating		Open	Open	Stopped	Atmosphere
ASCD operating	Releasing throttle cable	Open	Closed	Stopped	Vacuum
	Holding throttle position	Closed	Closed	Stopped	Vacuum (*2)
	Pulling throttle cable	Closed	Closed	Operated	Vacuum

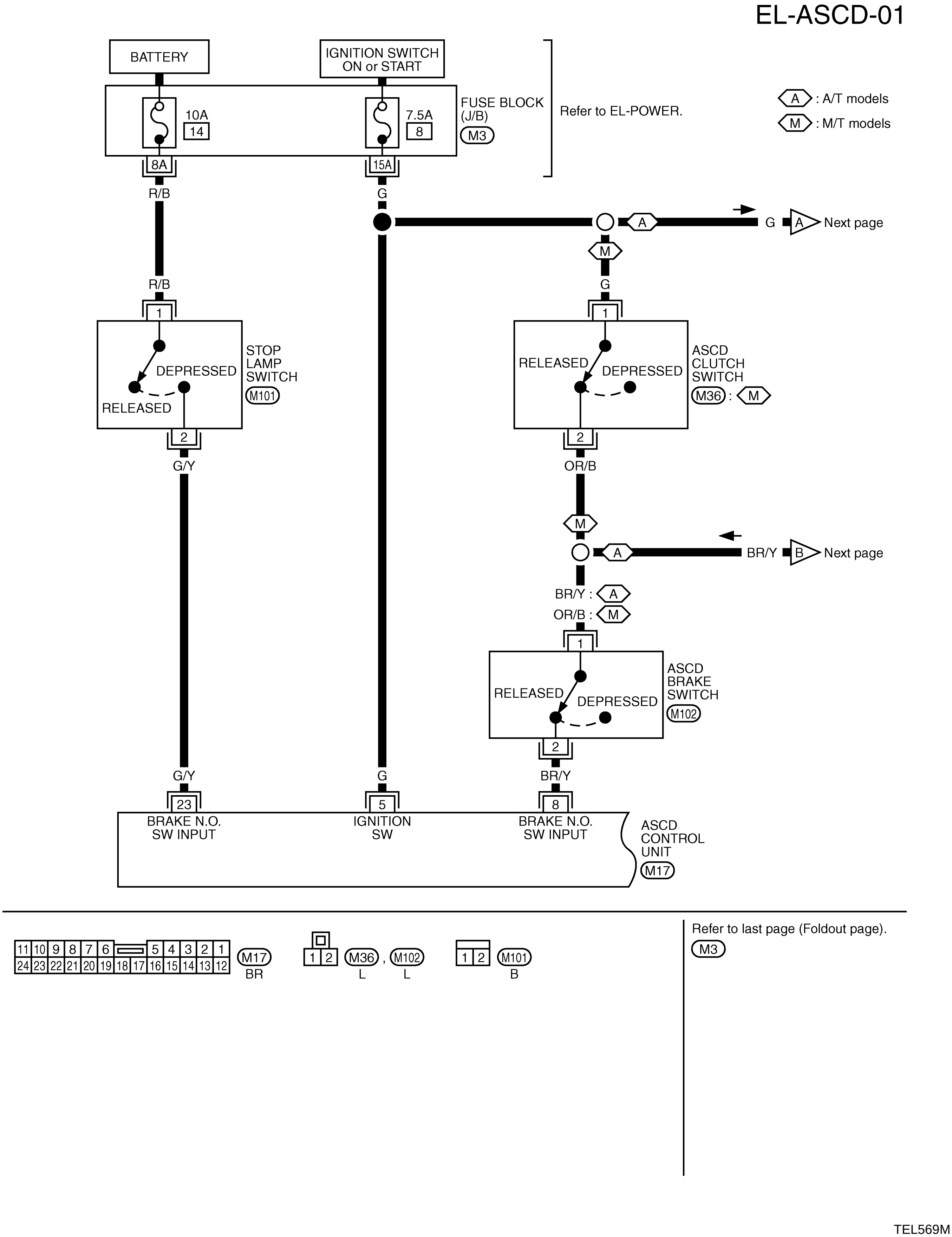
*1: When power and ground is supplied, valve is closed.
*2: Set position held.

Schematic/TB48 Engine Models



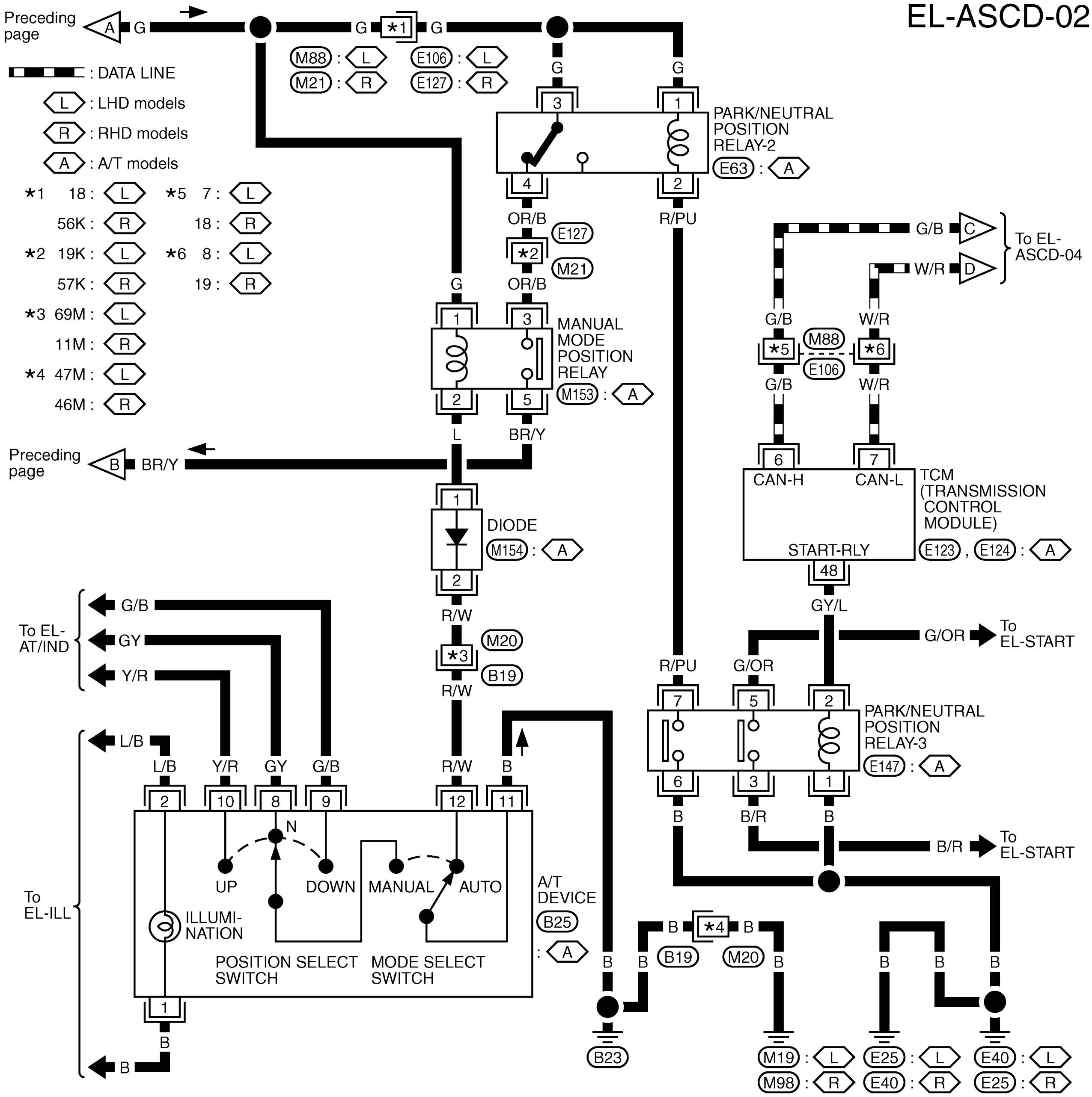
TEL568M

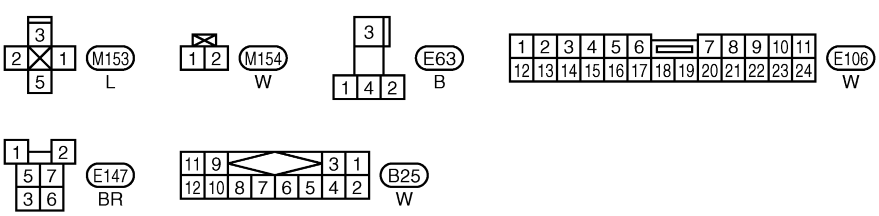
Wiring Diagram — ASCD —/TB48 Engine Models



Wiring Diagram — ASCD —/TB48 Engine Models (Cont'd)

EL-ASCD-02



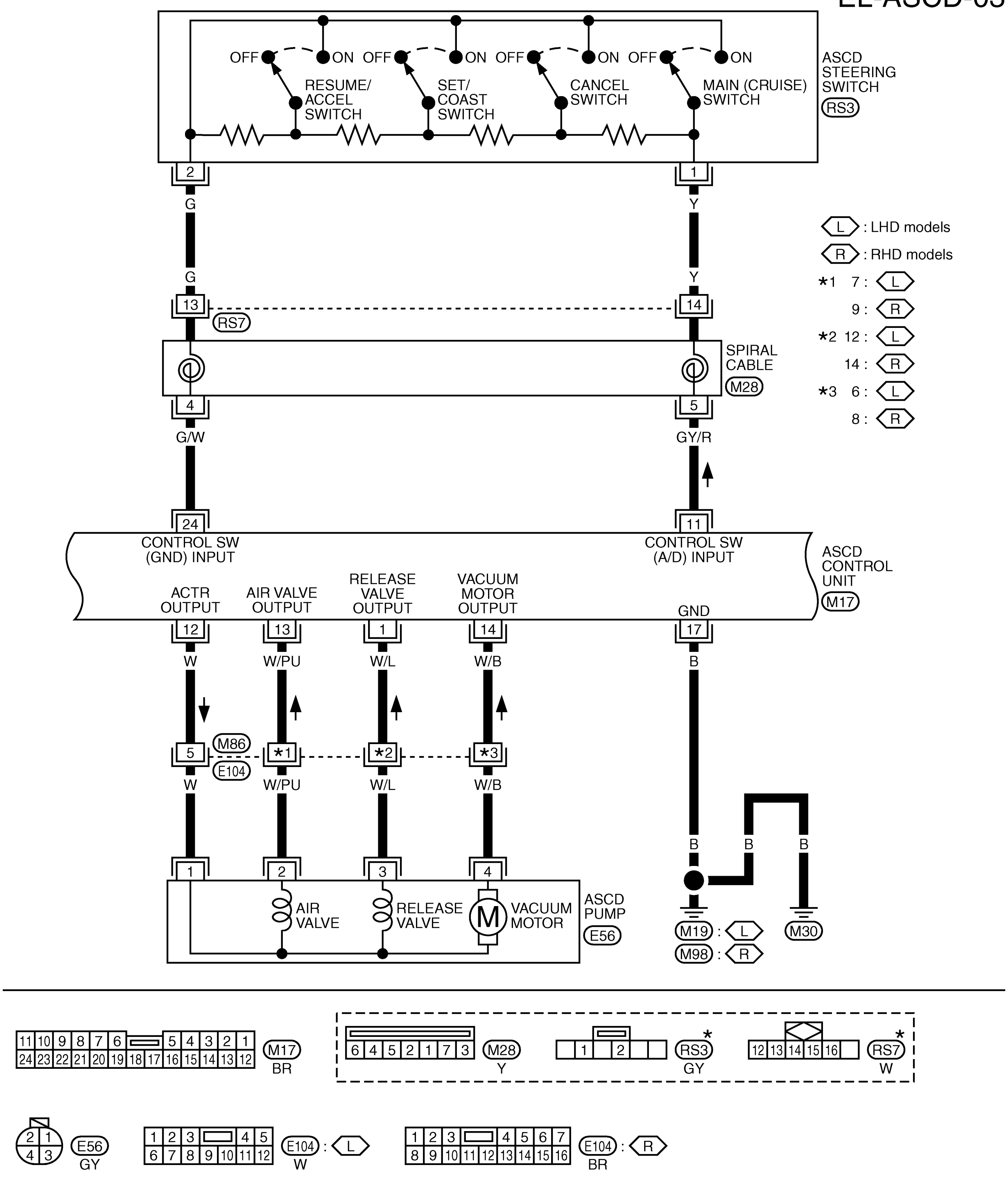


Refer to last page (Foldout page).
M20, B19
M21, E127
E123
E124

TEL570M

Wiring Diagram — ASCD —/TB48 Engine Models (Cont'd)

EL-ASCD-03

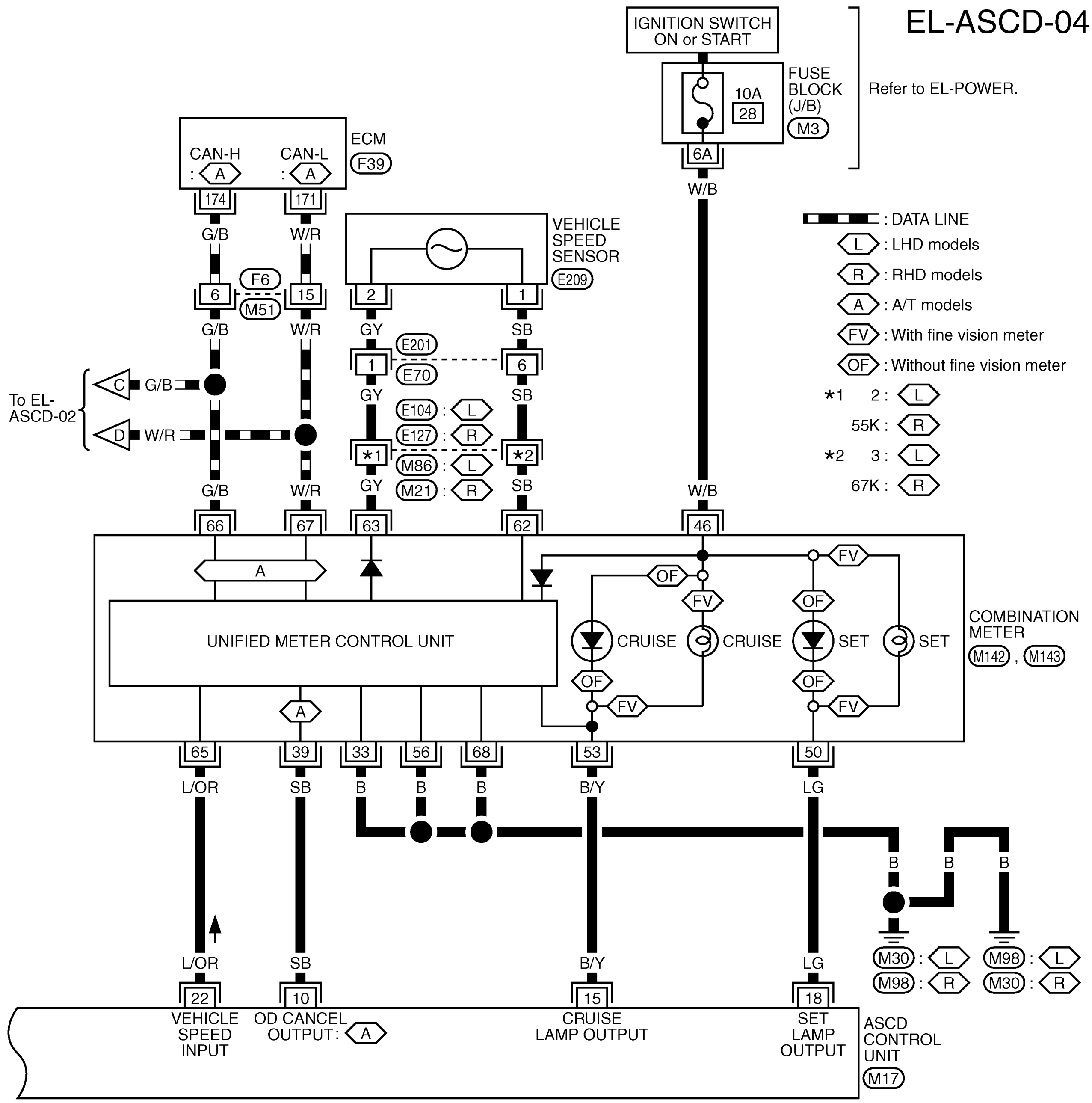


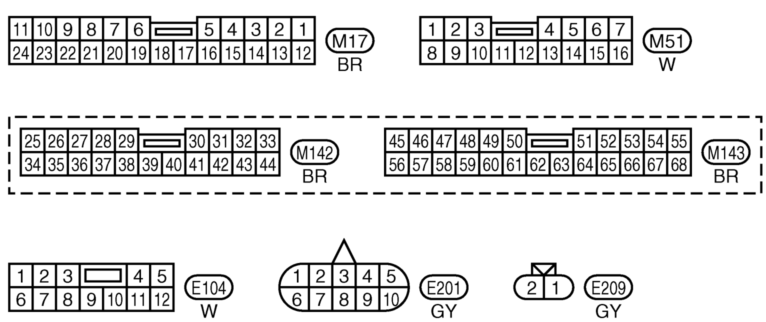
*: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL571M

Wiring Diagram — ASCD —/TB48 Engine Models (Cont'd)

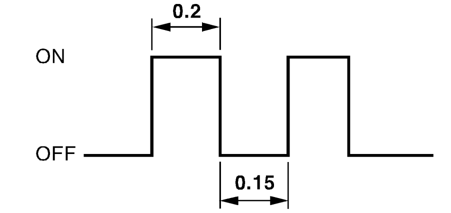
EL-ASCD-04





Refer to last page (Foldout page).
M21, E127
M3
F39

TEL572M



SEL255W

Fail-safe System/TB48 Engine Models

DESCRIPTION

When the fail-safe system senses a malfunction, it deactivates ASCD operation. The SET indicator in the combination meter will then flash.

MALFUNCTION DETECTION CONDITIONS

Detection conditions	ASCD operation during malfunction detection
● ASCD steering (RESUME/ACCEL, CANCEL, SET/COAST) switch is stuck. ● Vacuum motor ground circuit or power circuit is open or shorted. ● Air valve ground circuit or power circuit is open or shorted. ● Release valve ground circuit or power circuit is open or shorted. ● Vehicle speed sensor is faulty. ● ASCD control unit internal circuit is malfunctioning.	● ASCD is deactivated. ● Vehicle speed memory is canceled.
● ASCD brake switch or stop lamp switch is faulty.	● ASCD is deactivated. ● Vehicle speed memory is not canceled.

Trouble Diagnoses/TB48 Engine Models

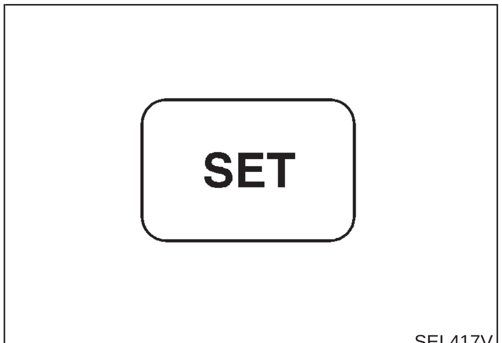
SYMPTOM CHART

PROEDURE	Diagnostic procedure						
REFERENCE PAGE (EL-)	227	228	229	230	231	231	233
SYMPTOM	FAIL-SAFE SYSTEM CHECK	POWER SUPPLY AND GROUND CIRCUIT CHECK	ASCD BRAKE/STOP LAMP SWITCH CHECK	ASCD STEERING SWITCH CHECK	VEHICLE SPEED SENSOR CHECK	ASCD PUMP CIRCUIT CHECK	ASCD ACTUATOR/PUMP CHECK
ASCD cannot be set. (“CRUISE” indicator lamp does not ON.)		X		X★3			
ASCD cannot be set. (“SET” indicator lamp does not blink.)			X	X	X		
ASCD cannot be set. (“SET” indicator lamp blinks.★1)	X		X	X	X	X	
Vehicle speed does not decrease after SET/COAST switch has been pressed.				X			X
Vehicle speed does not return to the set speed after RESUME/ACCEL switch has been pressed.★2				X			X
Vehicle speed does not increase after RESUME/ACCEL switch has been pressed.				X			X
System is not released after CANCEL switch (steering) has been pressed.				X			X
Large difference between set speed and actual vehicle speed.					X	X	X
Deceleration is greatest immediately after ASCD has been set.					X	X	X

★1: It indicates that system is in fail-safe. After completing diagnostic procedures, perform “FAIL-SAFE SYSTEM CHECK” (EL-227) to verify repairs.
★2: If vehicle speed is greater than 48 km/h (30 MPH) after system has been released, pressing RESUME/ACCEL switch returns vehicle speed to the set speed previously achieved. However, doing so when the ASCD main switch is turned to “OFF”, vehicle speed will not return to the set speed since the memory is canceled.
★3: Check only main switch built-in steering switch.

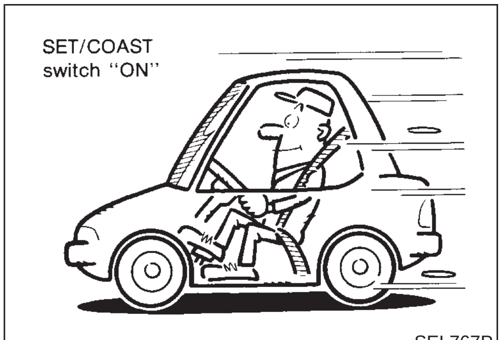
Trouble Diagnoses/TB48 Engine Models (Cont'd)

FAIL-SAFE SYSTEM CHECK



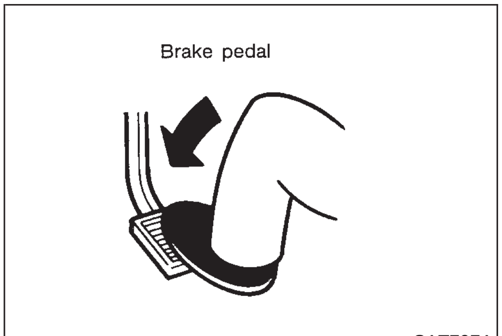
SEL417V

1. Turn ignition switch to ON position.
2. Turn ASCD main switch to ON and check if the "set indicator" blinks.
   If the indicator lamp blinks, check the following.
- ASCD steering switch. Refer to EL-230.



SEL767P

3. Drive the vehicle at more than 48 km/h (30 MPH) and push SET/COAST switch.
   If the indicator lamp blinks, check the following.
- Vehicle speed sensor. Refer to EL-231.
- ASCD pump circuit. Refer to EL-231.
- Replace control unit.



SAT797A

4. Depress brake pedal slowly (brake pedal should be depressed more than 5 seconds).
   If the indicator lamp blinks, check the following.
- ASCD brake/stop lamp switch. Refer to EL-229.

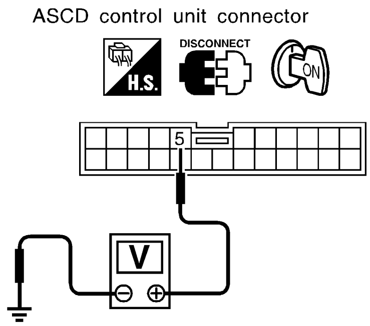
5. END. (System is OK.)

Trouble Diagnoses/TB48 Engine Models (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK

1	CHECK POWER SUPPLY CIRCUIT FOR ASCD CONTROL UNIT

1. Disconnect ASCD control unit harness connector.
2. Turn ignition switch ON.
3. Check voltage between ASCD control unit harness connector M17 terminal 5 (G) and ground.



Does battery voltage exist?

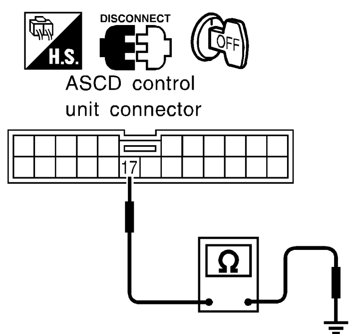
SEL256WD

Yes or No

Yes	▶	GO TO 2.
No	▶	**Check the following.** ● 7.5A fuse (No. 14 located in the fuse block) ● Harness for open or short

2	CHECK GROUND CIRCUIT FOR ASCD CONTROL UNIT

Check continuity between ASCD control unit harness connector M17 terminal 17 (B) and body ground.



Does continuity exist?

SEL257WD

Yes or No

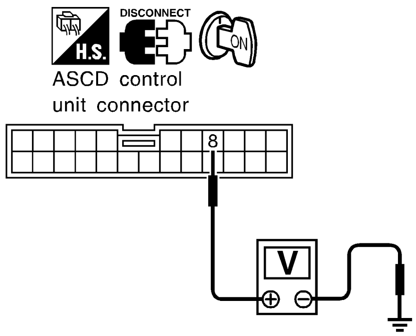
Yes	▶	Power supply and ground circuit is OK.
No	▶	Repair harness.

Trouble Diagnoses/TB48 Engine Models (Cont'd)

ASCD BRAKE/STOP LAMP SWITCH CHECK

1	CHECK ASCD BRAKE SWITCH CIRCUIT

1. Disconnect ASCD control unit harness connector.
2. Turn ignition switch ON.
3. Check voltage between ASCD control unit harness connector M17 terminal 8 (BR/Y) and ground.



When brake or clutch pedal is depressed (M/T), or when brake pedal is depressed or A/T selector lever is in "N" or "P" range (A/T):
Apporox. 0V
When brake and clutch pedal are released (M/T), or when both brake pedal is released and A/T selector lever is not in "N" or "P" range (A/T):
Battery voltage should exist.

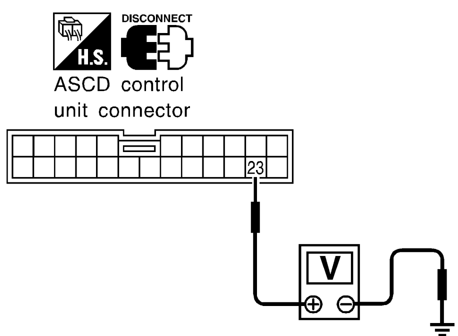
SEL258WG

OK or NG

OK ▶	GO TO 2.
NG ▶	**Check the following.** ● ASCD brake switch Refer to "Electrical Component Inspection" (EL-235). ● Park/neutral position relay-2 (A/T models) Refer to "Electrical Component Inspection" (EL-235). ● Manual mode position relay (A/T models) Refer to "Electrical Component Inspection" (EL-235). ● ASCD clutch switch (M/T models) Refer to "Electrical Component Inspection" (EL-235). ● Harness for open or short

2	CHECK STOP LAMP SWITCH CIRCUIT

1. Disconnect ASCD control unit harness connector.
2. Check voltage between ASCD control unit harness connector M17 terminal 23 (G/Y) and ground.



Voltage [V]:
Stop lamp switch: Depressed
Approx. 12
Stop lamp switch: Released
0

SEL259WD

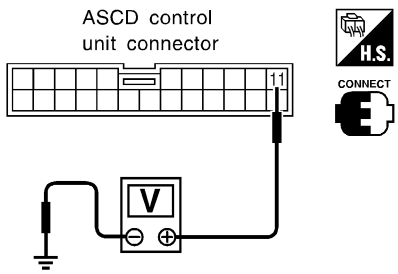
OK or NG

OK ▶	ASCD brake/stop lamp switch is OK.
NG ▶	**Check the following.** ● 10A fuse [No. 14, located in the fuse block (J/B)] ● Harness for open or short between ASCD control unit and stop lamp switch ● Harness for open or short between fuse and stop lamp switch ● Stop lamp switch Refer to "Electrical Component Inspection" (EL-235).

ASCD STEERING SWITCH CHECK

1	CHECK ASCD STEERING SWITCH CIRCUIT FOR ASCD CONTROL UNIT

Check voltage between ASCD control unit harness connector M17 terminal 11 (GY/R) and ground.



Switch	Condition	Voltage [V]
MAIN SW	Pressed	0
	Released	Approx. 4.0
SET SW	Pressed	Approx. 2.0
	Released	Approx. 4.0
RESUME/ ACC SW	Pressed	Approx. 3.0
	Released	Approx. 4.0
CANCEL SW	Pressed	Approx. 1.0
	Released	Approx. 4.0

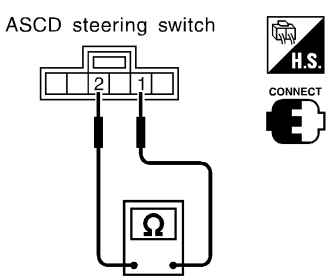
SEL005Y

OK or NG

OK	▶	ASCD steering switch is OK.
NG	▶	GO TO 2.

2	CHECK ASCD STEERING SWITCH

1. Disconnect ASCD steering switch.
2. Check continuity between RS3 terminals 1 and 2 by pushing each switch.



Switch	Condition	Resistance [Ω]
MAIN SW	Pressed	Approx. 0.3
	Released	Approx. 4,000
SET SW	Pressed	Approx. 661
	Released	Approx. 4,000
RESUME/ ACC SW	Pressed	Approx. 1,486
	Released	Approx. 4,000
CANCEL SW	Pressed	Approx. 249
	Released	Approx. 4,000

SEL196Y

OK or NG

OK	▶	Check harness for open or short between ASCD steering switch and ASCD control unit.
NG	▶	Replace ASCD steering switch.

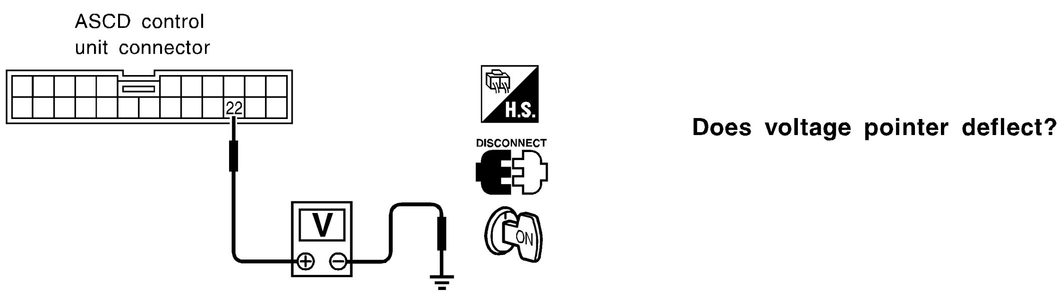
Trouble Diagnoses/TB48 Engine Models (Cont'd)

VEHICLE SPEED SENSOR CHECK

1	CHECK SPEEDOMETER OPERATION
Does speedometer operate normally?	
Yes ▶	GO TO 2.
No ▶	Check speedometer and vehicle speed sensor circuit. Refer to EL-127.

2	CHECK VEHICLE SPEED INPUT

1. Apply wheel chocks and jack up drive wheel.
2. Disconnect ASCD control unit harness connector.
3. Check voltage between control unit M17 terminal 22 (L/OR) and ground with turning drive wheel slowly by hand.



SEL263WD

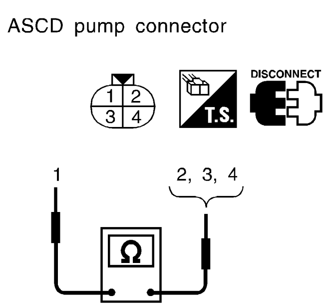
Yes or No

Yes ▶	Vehicle speed sensor is OK.
No ▶	Check harness for open or short between ASCD control unit terminal 22 and combination meter terminal 65.

ASCD PUMP CIRCUIT CHECK

1	CHECK ASCD PUMP

1. Disconnect ASCD pump connector.
2. Measure resistance between ASCD pump terminals 1 and 2, 3, 4.



Terminals		Resistance Ω
1	2	Approx. 65
	3	Approx. 65
	4	Approx. 3

SEL262WC

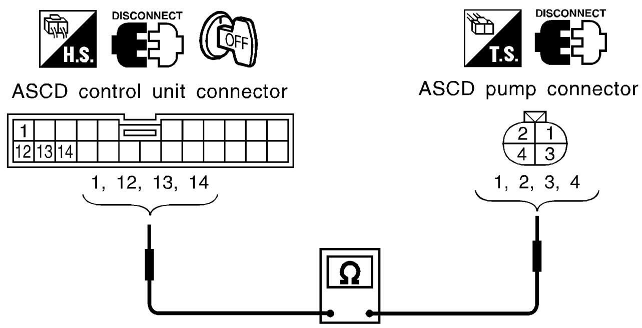
OK or NG

OK ▶	GO TO 2.
NG ▶	Replace ASCD pump.

Trouble Diagnoses/TB48 Engine Models (Cont'd)

2	CHECK ASCD PUMP CIRCUIT

1. Disconnect ASCD control unit harness connector.
2. Check harness for open or short between ASCD control unit and ASCD pump.



Circuit	Terminal	
	ASCD control unit	ASCD pump
ASCD pump power suply	12	1
Air valve	13	2
Release valve	1	3
Vacuum motor	14	4

Continuity should exist.

SEL269WD

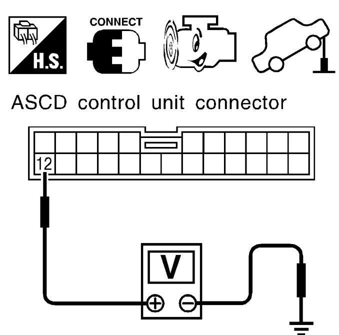
OK or NG

OK	▶	GO TO 3.
NG	▶	Repair harness.

3	CHECK ASCD PUMP POWER SUPPLY

1. Jack-up the drive wheels.
2 Maintain the conditions below.
- Vehicle speed is more than 48 km/h (30 MPH).
- Main switch (CRUISE lamp) is ON.
- Set/coast switch (SET lamp) is ON.

Check voltage between ASCD control unit harness connector M17 terminal 12 (W) and ground.



Battery voltage should exist.

SEL381WD

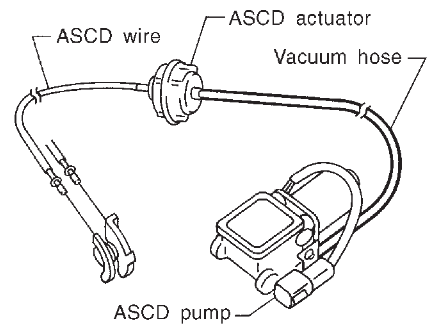
OK or NG

OK	▶	ASCD pump power supply is OK.
NG	▶	Replace ASCD control unit.

ASCD ACTUATOR/PUMP CHECK

1	CHECK VACUUM HOSE

Check vacuum hose (between ASCD actuator and ASCD pump) for breakage, cracks or fracture.



MEL402G

OK or NG

OK	▶	GO TO 2.
NG	▶	Repair or replace hose.

2	CHECK ASCD WIRE

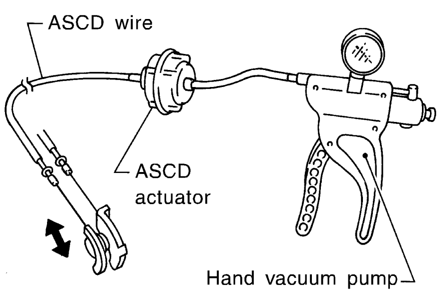
Check wire for improper installation, rust formation or breaks.

OK or NG

OK	▶	GOTO 3.
NG	▶	Repair or replace wire. Refer to "ASCD Wire Adjustment" (EL-236).

3	CHECK ASCD ACTUATOR

1. Disconnect vacuum hose from ASCD actuator.
2. Connect the hose of hand vacuum pump to ASCD actuator.



Apply –40 kPa (–0.402 bar, –0.41 kg/cm^2, –5.8 psi) vacuum to ASCD actuator with hand vacuum pump.

ASCD wire should move to pull throttle drum.

Wait 10 seconds and check for decrease in vacuum pressure.

Vacuum pressure decrease:

Less than 2.7 kPa (0.027 bar, 0.028 kg/cm^2, 0.39 psi)

SEL264WE

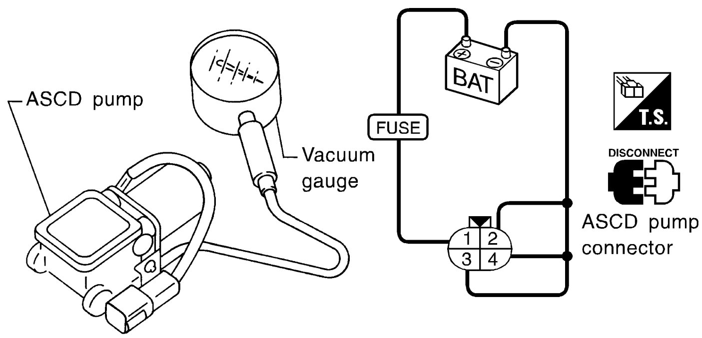
OK or NG

OK	▶	GO TO 4.
NG	▶	Replace ASCD actuator.

Trouble Diagnoses/TB48 Engine Models (Cont'd)

4	CHECK ASCD PUMP

1. Disconnect vacuum hose from ASCD pump and ASCD pump connector.
2. If necessary remove ASCD pump.
3. Connect vacuum gauge to ASCD pump.
4. Apply 12V direct current to ASCD pump and check operation.



	12V direct current supply terminals		Operation
	(+)	(–)	
Air valve	1	2	Close
Release valve		3	Close
Vacuum motor		4	Operate

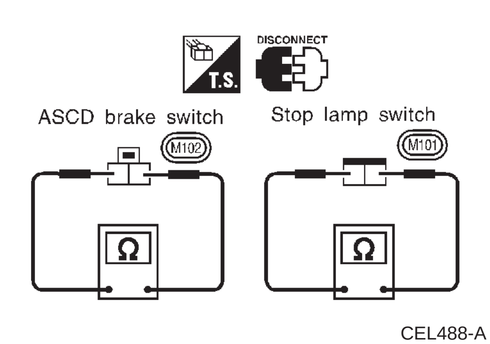
A vacuum pressure of at least –40 kPa (–0.402 bar, –0.41 kg/cm², –5.8 psi) should be generated.

SEL265WE

OK or NG

OK	▶	INSPECTION END
NG	▶	Replace ASCD pump.

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX



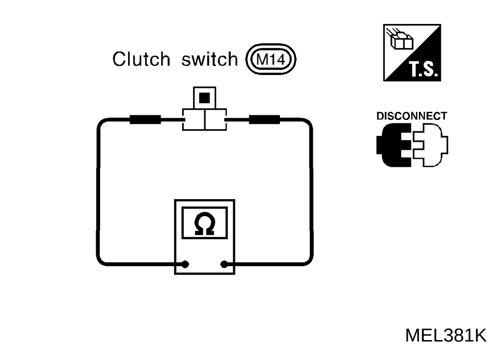
CEL488-A

Electrical Component Inspection/TB48 Engine Models

ASCD BRAKE SWITCH AND STOP LAMP SWITCH

Condition	Continuity	
	ASCD brake switch	Stop lamp switch
When brake pedal is depressed	No	Yes
When brake pedal is released	Yes	No

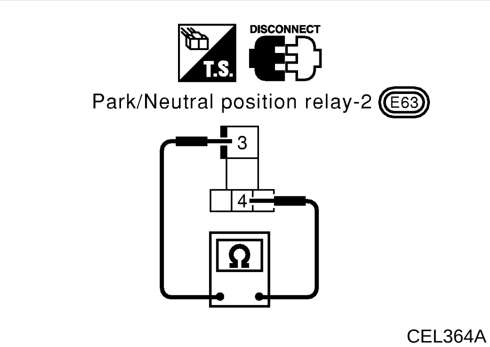
Check each switch after adjusting brake pedal — refer to BR section.



MEL381K

ASCD CLUTCH SWITCH (FOR M/T MODELS)

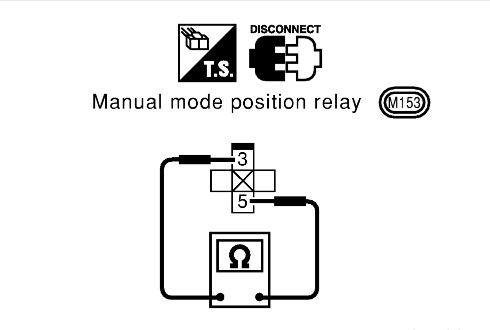
Condition	Continuity
When clutch pedal is depressed	No
When clutch pedal is released	Yes



CEL364A

PARK/NEUTRAL POSITION RELAY-2 (FOR A/T MODELS)

A/T selector lever position	Continuity
	Between terminals 3 and 4
“P”	No
“N”	No
Except “P” and “N”	Yes

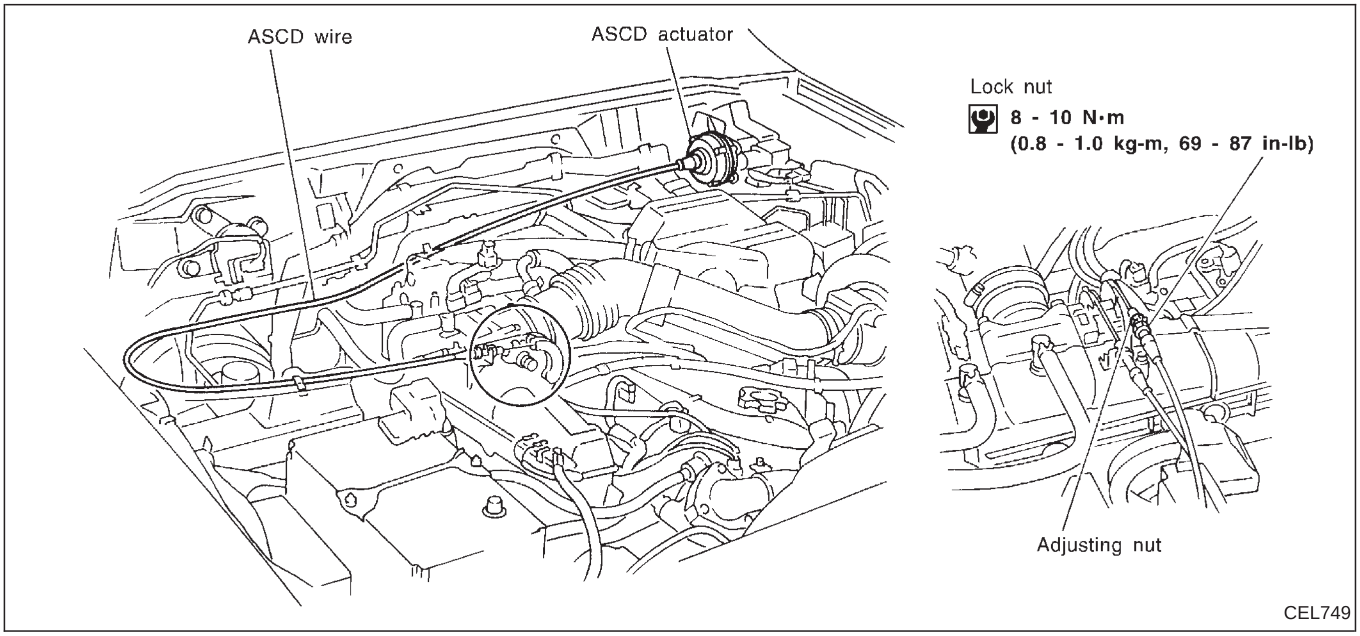


CEL365A

MANUAL MODE POSITION RELAY (FOR A/T MODELS)

A/T selector lever position	Continuity
	Between terminals 3 and 5
Manual mode	No
Except manual mode	Yes

ASCD Wire Adjustment/TB48 Engine Models



CAUTION:

- **Be careful not to twist ASCD wire when removing it.**
- **Do not tense ASCD wire excessively during adjustment.**

Adjust the tension of ASCD wire in the following manner.

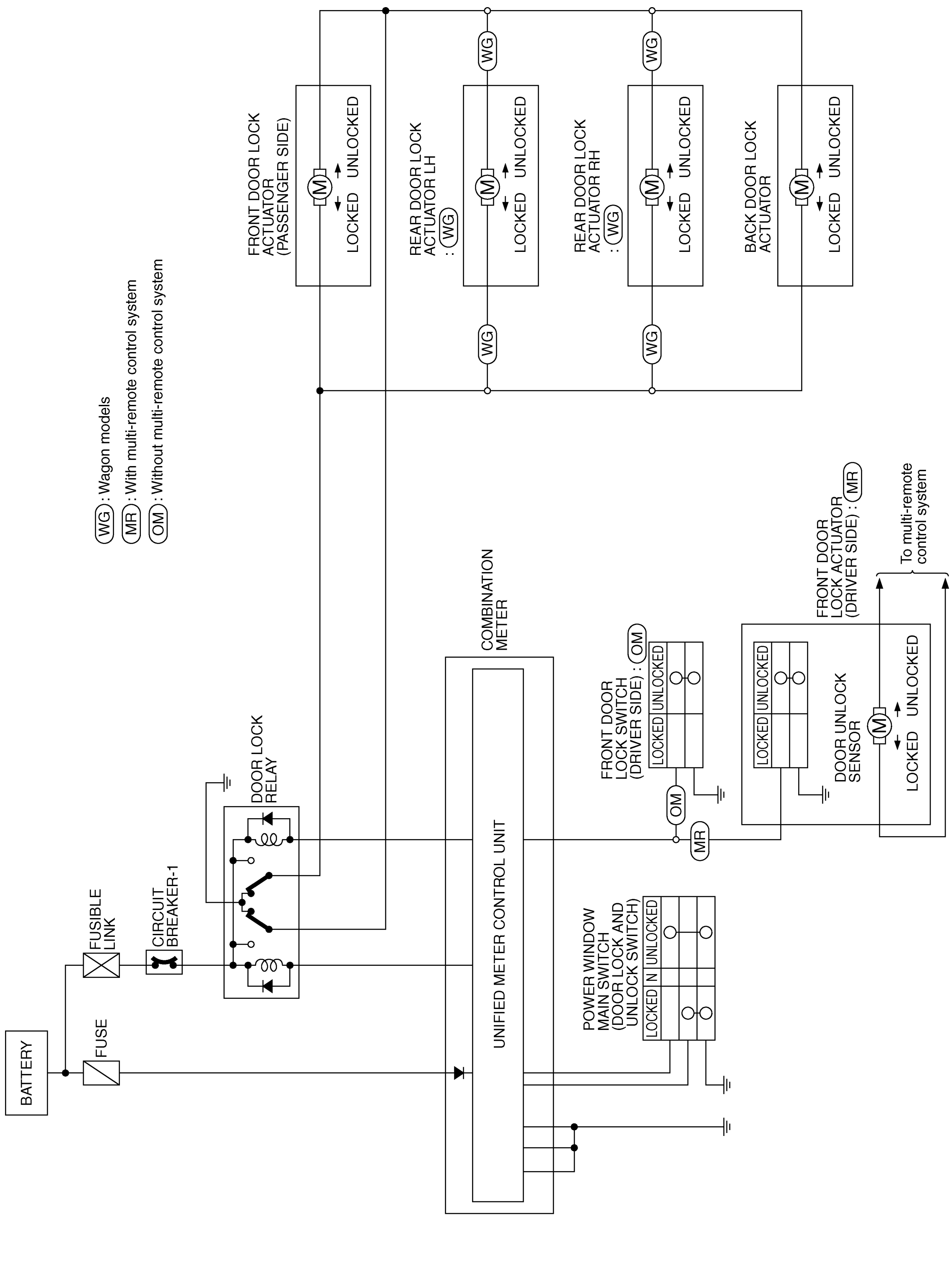
1. Loosen lock nut and adjusting nut.
2. Make sure that accelerator wire is properly adjusted. Refer to FE section, “ACCELERATOR CONTROL SYSTEM”.
4. Tighten adjusting nut just until throttle drum starts to move.
5. Loosen adjusting nut again 1/2 to 1 turn.
6. Tighten lock nut.

System Description/Except for South Africa and With Theft Warning System Models

Operation

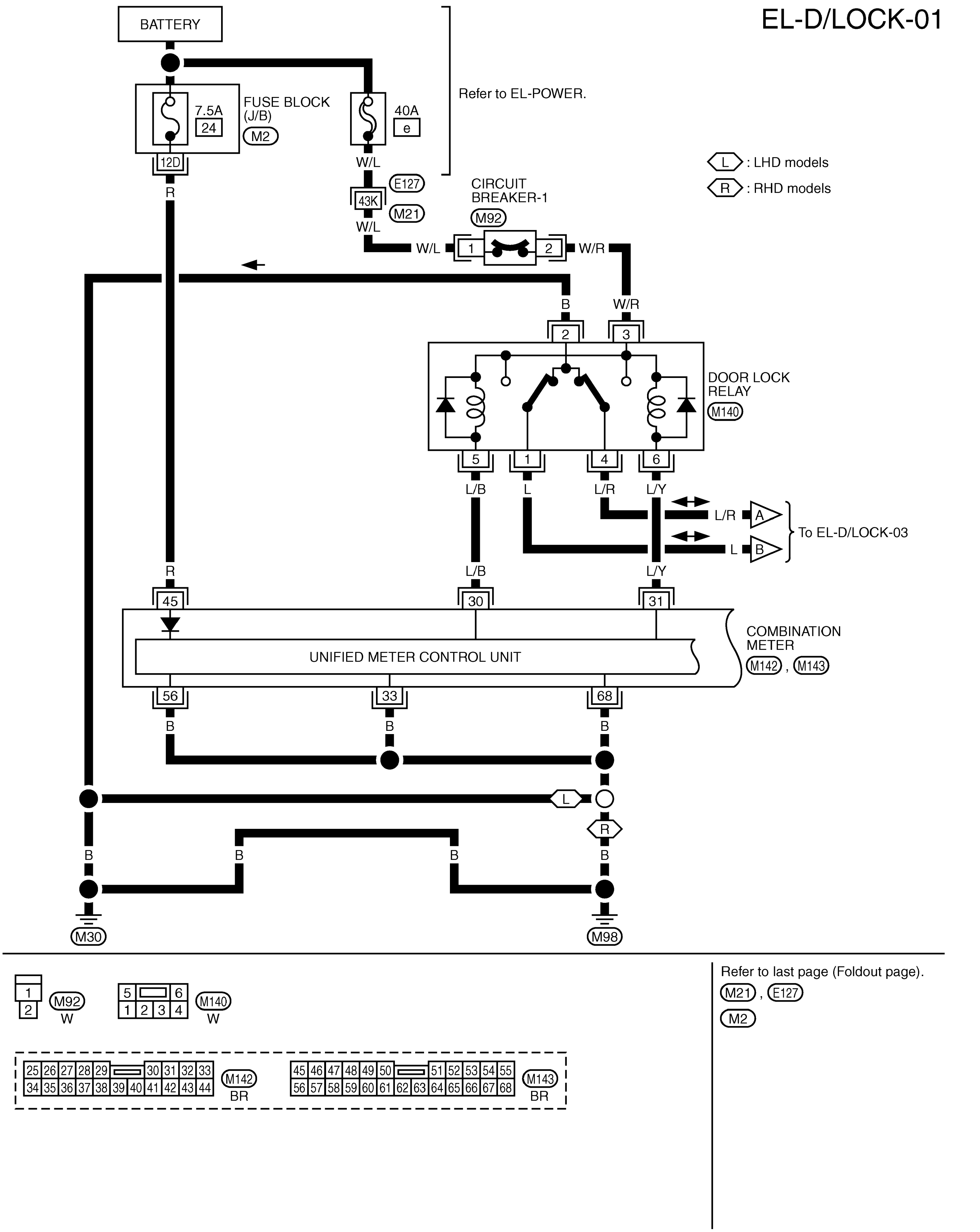
- The lock/unlock switch on power window main switch can lock and unlock all door.
- The lock knob on the driver’s door can lock and unlock all doors. (Signals from front door lock switch)
- With the key inserted in the driver’s door key cylinder, the doors can be locked by turning the key to the “LOCK” position, and unlocked by turning to the “UNLOCK” position. (Signals from front door lock switch)

Schematic/Except for South Africa and With Theft Warning System Models



TEL471M

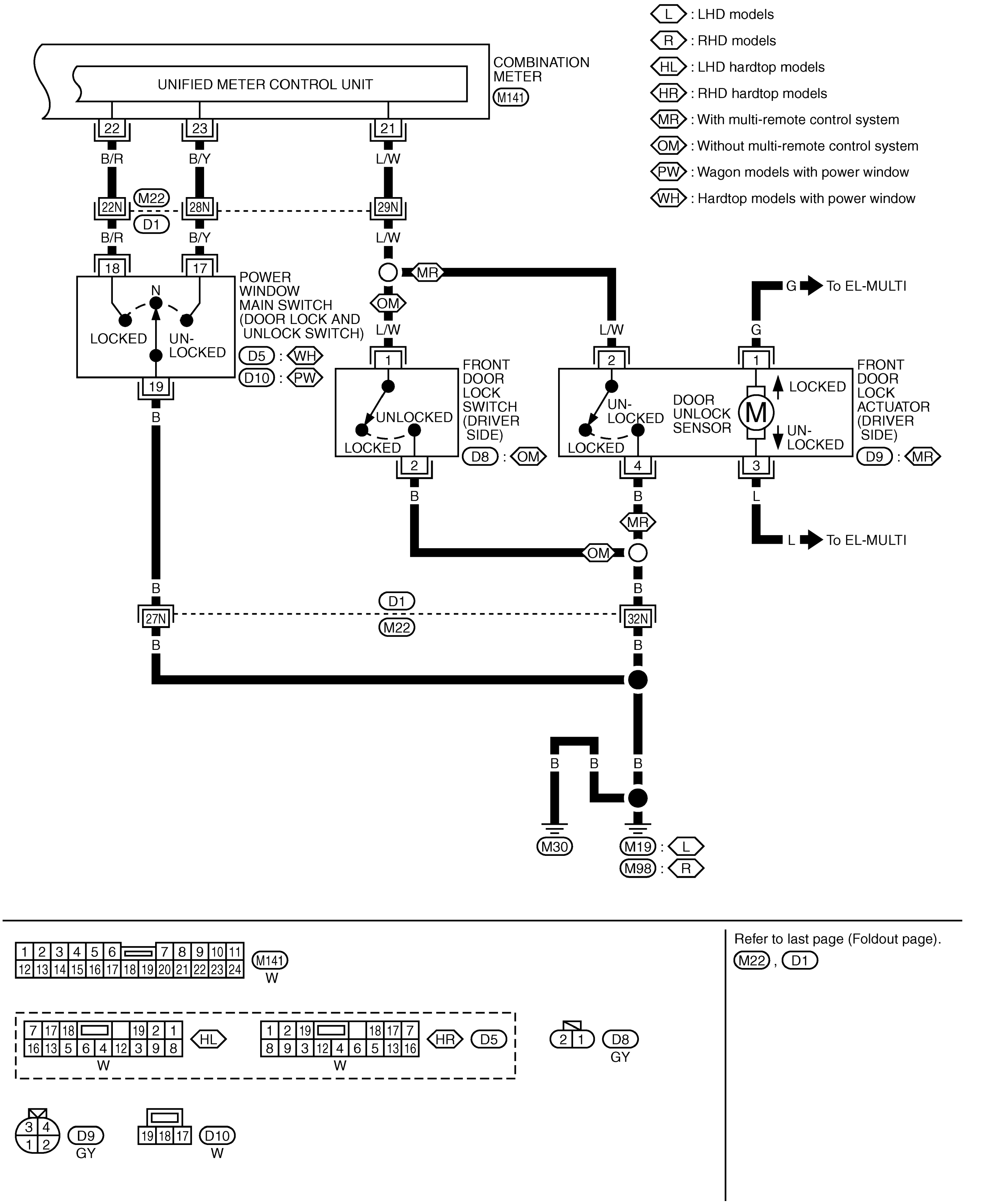
Wiring Diagram — D/LOCK —/Except for South Africa and With Theft Warning System Models



TEL472M

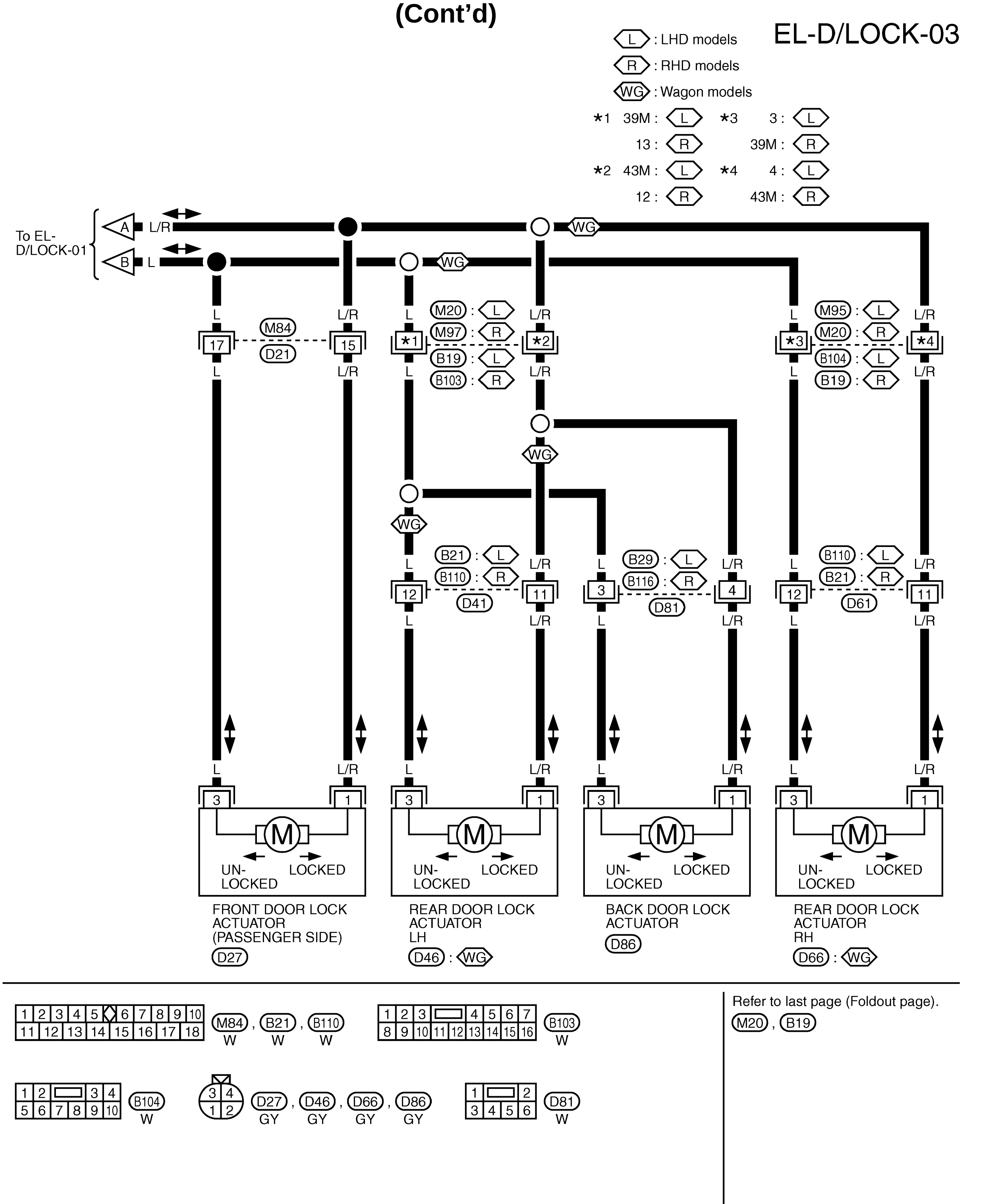
Wiring Diagram — D/LOCK —/Except for South Africa and With Theft Warning System Models (Cont'd)

EL-D/LOCK-02



TEL473M

Wiring Diagram — D/LOCK —/Except for South Africa and With Theft Warning System Models (Cont'd)



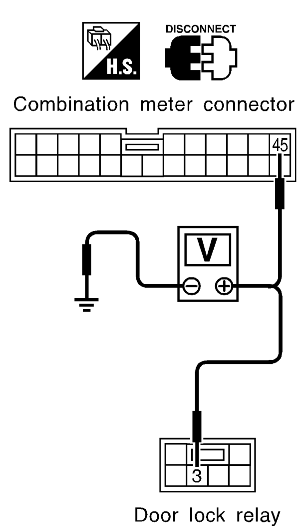
Refer to last page (Foldout page).
M20 , B19

TEL474M

Trouble Diagnoses/Except for South Africa and With Theft Warning System Models

SYMPTOM CHART

REFERENCE PAGE (EL-)	242	243	245	246
SYMPTOM	POWER SUPPLY AND GROUND CIRCUIT CHECK	DOOR LOCK/UNLOCK SWITCH CHECK	DOOR LOCK SWITCH CHECK	DOOR LOCK ACTUATOR CHECK
Power door lock does not operate with driver's door lock knob/key cylinder and door lock/unlock switch on power window main switch.	X			X
Power door lock does not operate with door lock/unlock switch on power window main switch.		X		
Power door lock does not operate with driver's door lock knob/key cylinder.			X	



SEL362Y

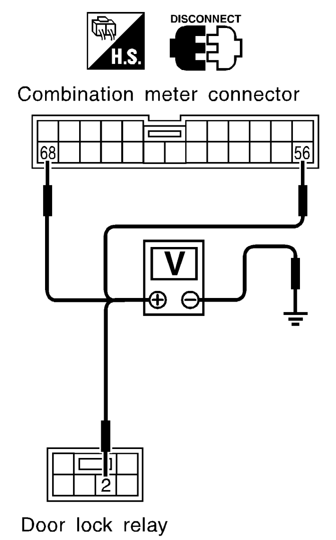
POWER SUPPLY AND GROUND CIRCUIT CHECK

Power Supply Circuit Check

Terminal No.			Ignition switch position		
(+)		(−)	OFF	ACC	ON
Connector	Terminal (Wire color)				
M143	45 (R)	Ground	Battery voltage	Battery voltage	Battery voltage
M140	3 (W/R)	Ground	Battery voltage	Battery voltage	Battery voltage

If NG, check the following.
- 7.5A fuse [No. 24, located in fuse block (J/B)]
- 40A fusible link [letter **e**, located in fuse and fusible link box]
- Circuit breaker
- Harness for open or short between fuse and combination meter
- Harness for open or short between fusible link and circuit breaker
- Harness for open or short between circuit breaker and door lock relay

Trouble Diagnoses/Except for South Africa and With Theft Warning System Models (Cont'd)



SEL363Y

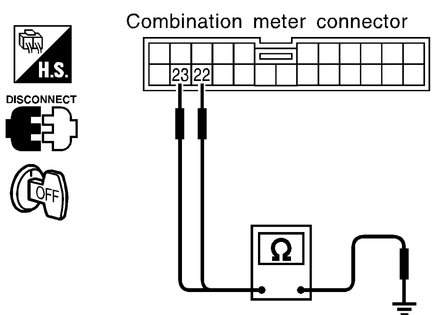
Ground Circuit Check

Terminal No.			Continuity
(+)		(−)	
Connector	Terminal (Wire color)		
M143	56 (B), 68 (B)	Ground	Yes
M140	2 (B)	Ground	Yes

DOOR LOCK/UNLOCK SWITCH CHECK

1	CHECK DOOR LOCK/UNLOCK SWITCH CIRCUIT

1. Disconnect combination meter harness connector.
2. Check continuity between combination meter harness connector M141 terminal 22 (B/R) or 23 (B/Y) and ground.



Terminal No.	Condition (Door lock/unlock switch)	Continuity
22-Ground	Lock	Yes
	Neutral/Unlock	No
23-Ground	Unlock	Yes
	Neutral/Lock	No

SEL364Y

OK or NG

OK	▶	Door lock/unlock switch is OK; go to unified meter control unit (time control system) check. Refer to EL-310.
NG	▶	GO TO 2.

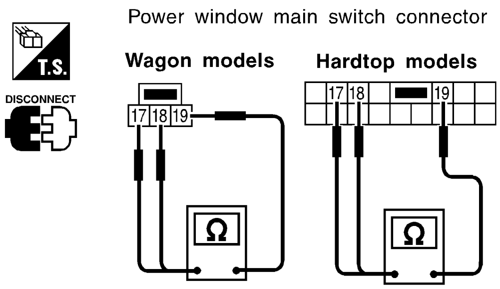
GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Trouble Diagnoses/Except for South Africa and With Theft Warning System Models (Cont'd)

2	CHECK DOOR LOCK/UNLOCK SWITCH

1. Disconnect door lock/unlock switch harness connector.
2. Check continuity between door lock/unlock switch terminals.

- Power window main switch (Door lock/unlock switch)



Condition	Terminal No.		
	17	18	19
Lock		○—	—○
N	No continuity		
Unlock	○—	—	—○

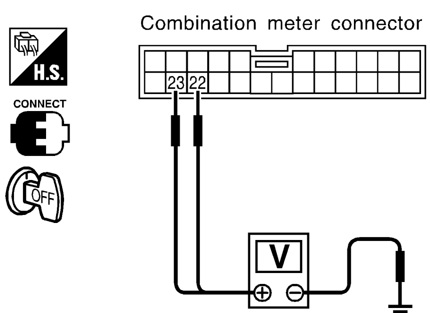
SEL365Y

OK or NG

OK	▶	GO TO 3.
NG	▶	Replace door lock/unlock switch.

3	CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

1. Connect combination meter harness connector and door lock/unlock switch harness connector.
2. Check voltage between combination meter harness connector M141 terminal 22 (B/R) or 23 (B/Y) and ground.



Terminal No. (+)	Terminal No. (–)	Condition (Door lock/unlock switch)	Voltage [V]
22	Ground	Lock	0
		Neutral/Unlock	Approx. 5
23	Ground	Unlock	0
		Neutral/Lock	Approx. 5

SEL366Y

OK or NG

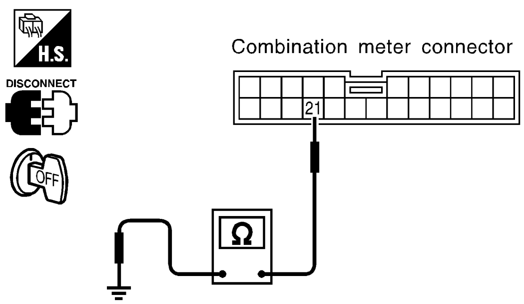
OK	▶	**Check the following.** • Ground circuit for door lock/unlock switch • Harness for open or short between door lock/unlock switch and combination meter
NG	▶	Replace unified meter control unit (time control system).

Trouble Diagnoses/Except for South Africa and With Theft Warning System Models (Cont'd)

DOOR LOCK SWITCH CHECK

1	CHECK DOOR LOCK SWITCH CIRCUIT

1. Disconnect combination meter harness connector.
2. Check continuity between combination meter harness connector M141 terminal 21 (L/W) and ground.



Terminal No.	Condition (Driver's door)	Continuity
21-Ground	Locked	No
	Unlocked	Yes

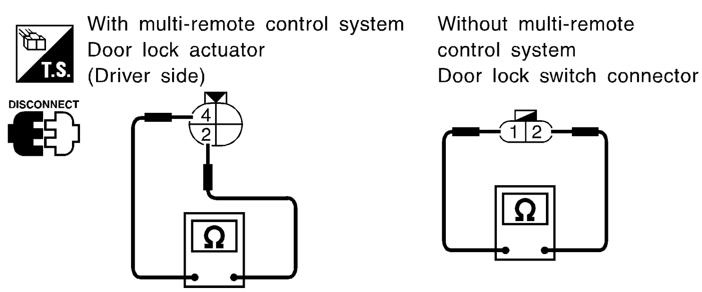
SEL367Y

OK or NG

OK ▶	Door lock switch is OK; go to unified meter control unit (time control system) check. Refer to EL-310.
NG ▶	GO TO 2.

2	CHECK DOOR LOCK SWITCH

1. Disconnect door lock switch harness connector.
2. Check continuity between door lock switch terminals 1 and 2. (Without multi-remote control system)
3. Check continuity between door lock switch harness connector D9 terminals 2 and 4. (With multi-remote control system)



Terminal No.	Condition (Driver's door)	Continuity
1-2 or 2-4	Locked	No
	Unlocked	Yes

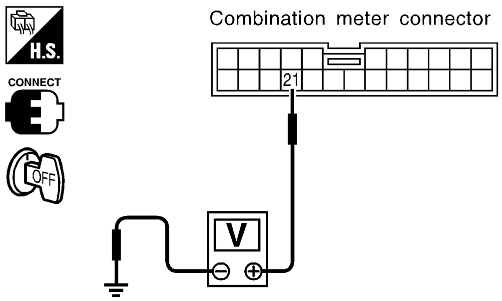
SEL368Y

OK or NG

OK ▶	GO TO 3.
NG ▶	Replace door lock switch.

3	CHECK DOOR LOCK SWITCH INPUT SIGNAL

1. Connect door lock switch harness connector and combination meter harness connector.
2. Check voltage combination meter harness connector M141 terminal 21 (L/W) and ground.



Terminal No. (+)	Terminal No. (–)	Condition (Driver's door)	Voltage [V]
21	Ground	Locked	Approx. 5
		Unlocked	0

SEL369Y

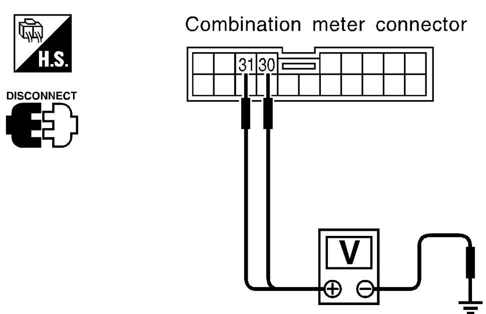
OK or NG

OK ▶	**Check the following.** ● Door lock switch ground circuit ● Harness for open or short between combination meter and door lock switch
NG ▶	Replace unified meter control unit (time control system).

DOOR LOCK ACTUATOR CHECK

1	CHECK DOOR LOCK ACTUATOR CIRCUIT

1. Disconnect combination meter harness connector.
2. Check voltage between combination meter harness connector M142 terminal 30 (L/B) or 31 (L/Y) and ground.



Terminal No. (+)	Terminal No. (–)	Condition (Door lock/unlock switch)	Voltage [V]
30	Ground	Lock	Approx. 12
31	Ground	Unlock	

SEL370Y

OK or NG

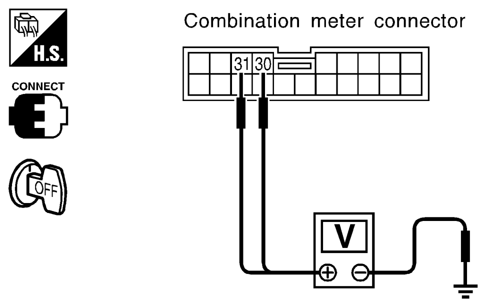
OK ▶	GO TO 2.
NG ▶	**Check the following.** ● Door lock relay ● Harness for open or short between combination meter and door lock relay

Trouble Diagnoses/Except for South Africa and With Theft Warning System Models (Cont'd)

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

2	CHECK DOOR LOCK INPUT SIGNAL

1. Connect combination meter harness connector.
   Check voltage between combination meter harness connector M142 terminal 30 (L/B) or 31 (L/Y) and ground.



Terminal No. (+)	Terminal No. (–)	Condition (Door lock/unlock switch)	Voltage [V]
30	Ground	Lock	Approx. 12 → 0 → 12
31	Ground	Unlock	

SEL371Y

OK or NG

OK ▶	GO TO .3
NG ▶	Replace unified meter control unit (time control system).

3	CHECK DOOR LOCK RELAY

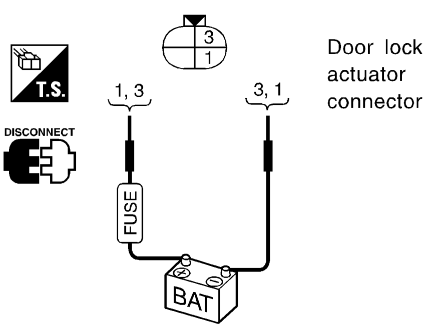
Check door lock relay.

OK or NG

OK ▶	GO TO 4.
NG ▶	Replace door lock relay.

4	CHECK DOOR LOCK ACTUATOR

1. Disconnect door lock actuator harness connector.
2. Apply 12V direct current to door lock actuator terminal and check operation.



Door lock actuator operation:
Terminals between (+): 1 and (–): 3
Unlocked → Locked
Terminals between (+): 3 and (–): 1
Locked → Unlocked

SEL222WD

OK or NG

OK ▶	Check harness for open or short between door lock relay and door lock actuator.
NG ▶	Replace door lock actuator.

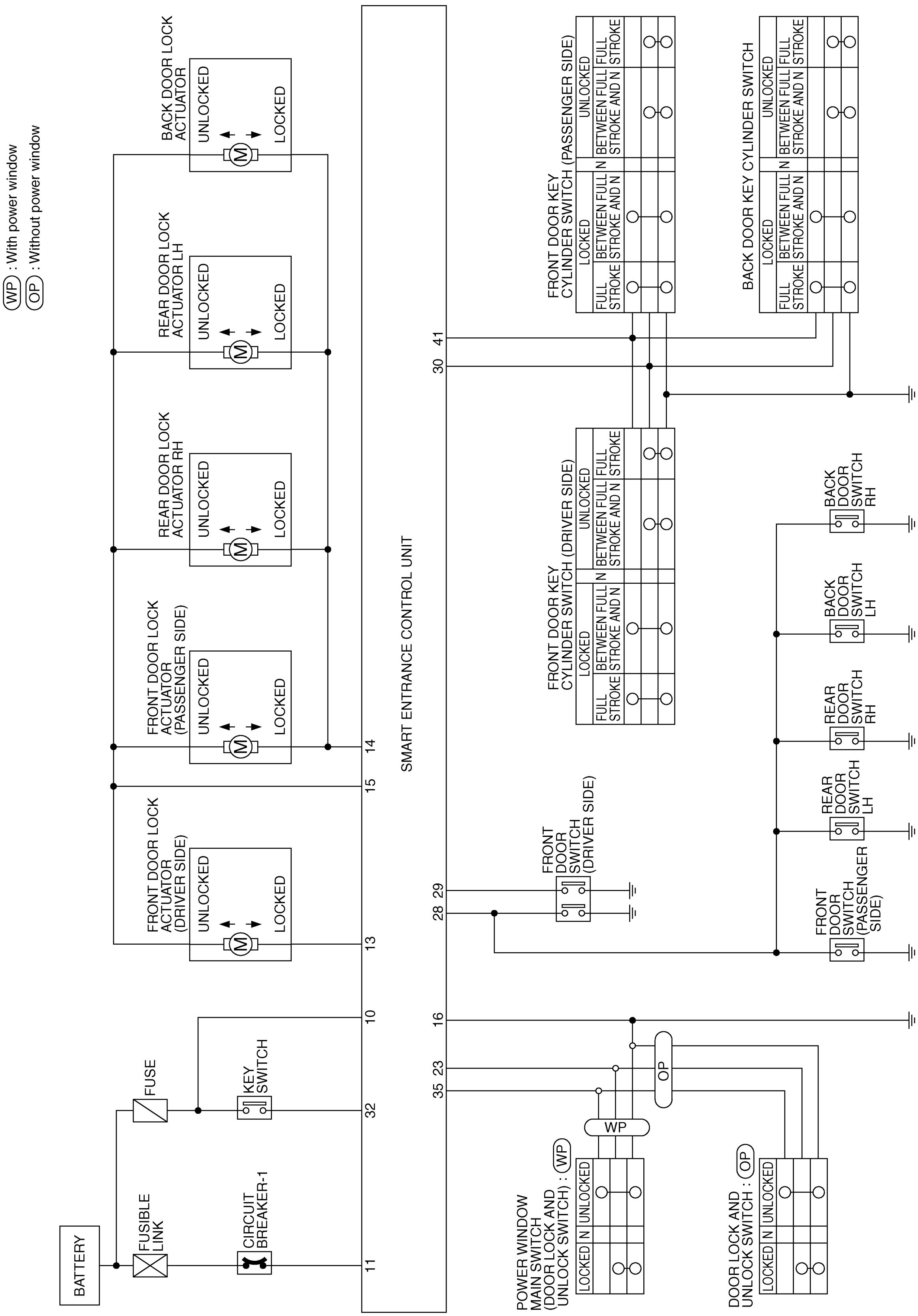
System Description/With Theft Warning System Models

OPERATION

- The lock & unlock switch on front LH door can lock and unlock all doors.
- With the door key inserted in the key cylinder on front LH, RH or back door, turning it to “LOCK”, will lock all doors; turning it to “UNLOCK” once unlocks the corresponding door; turning it to “UNLOCK” again within 5 seconds after the first unlock operation unlocks all of the other doors. (Signals from door key cylinder switch)

However, if the ignition key is in the ignition key cylinder and one or more of the doors are open, setting the lock & unlock switch to “LOCK” locks the doors once but then immediately unlocks them. (Combination signals from key switch and door switches) — (KEY REMINDER DOOR SYSTEM)

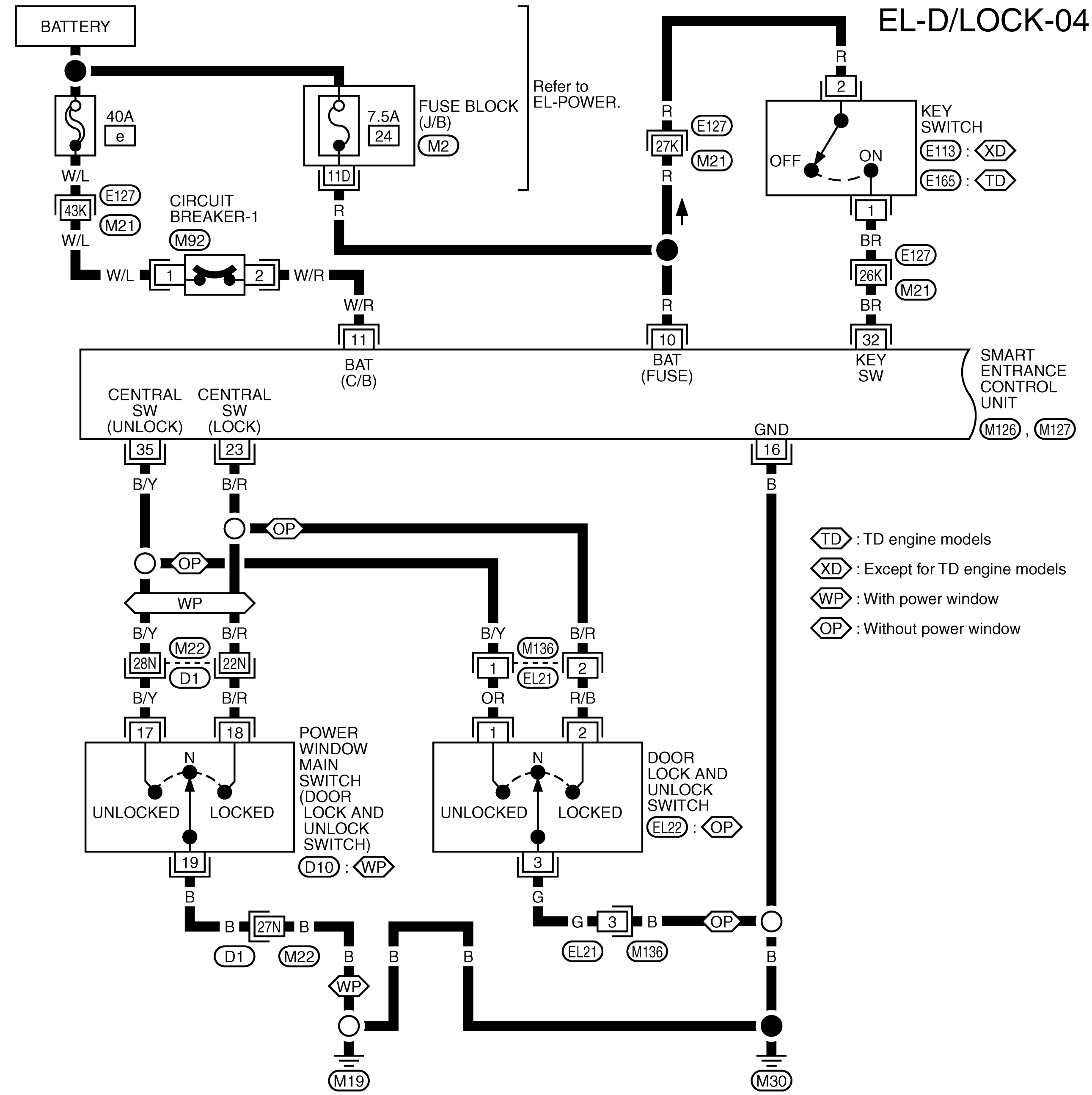
Schematic/With Theft Warning System Models

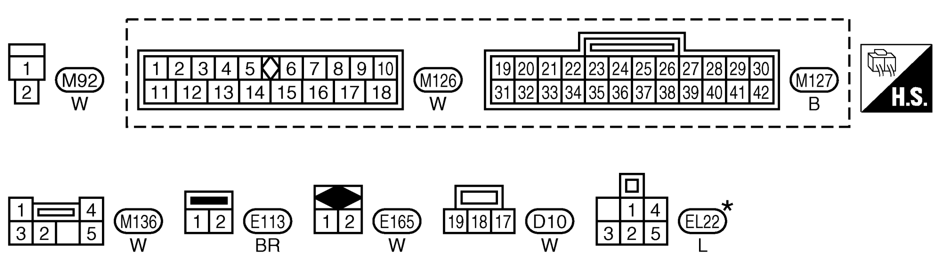


TEL573M

Wiring Diagram — D/LOCK —/With Theft Warning System Models

LHD MODELS



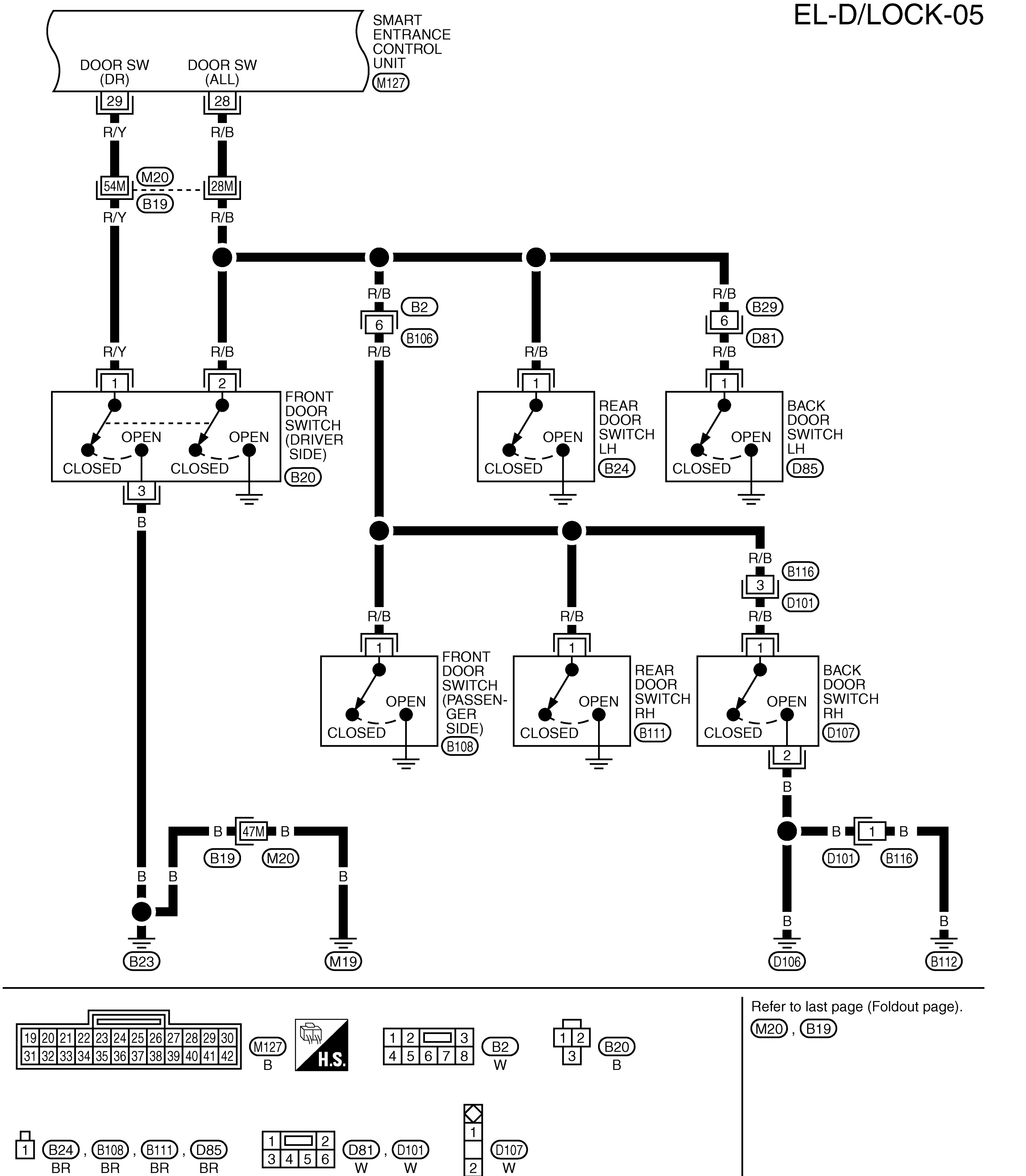


Refer to last page (Foldout page).
M21 , E127
M22 , D1
M2

*: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL574M

Wiring Diagram — D/LOCK —/With Theft Warning System Models (Cont'd)



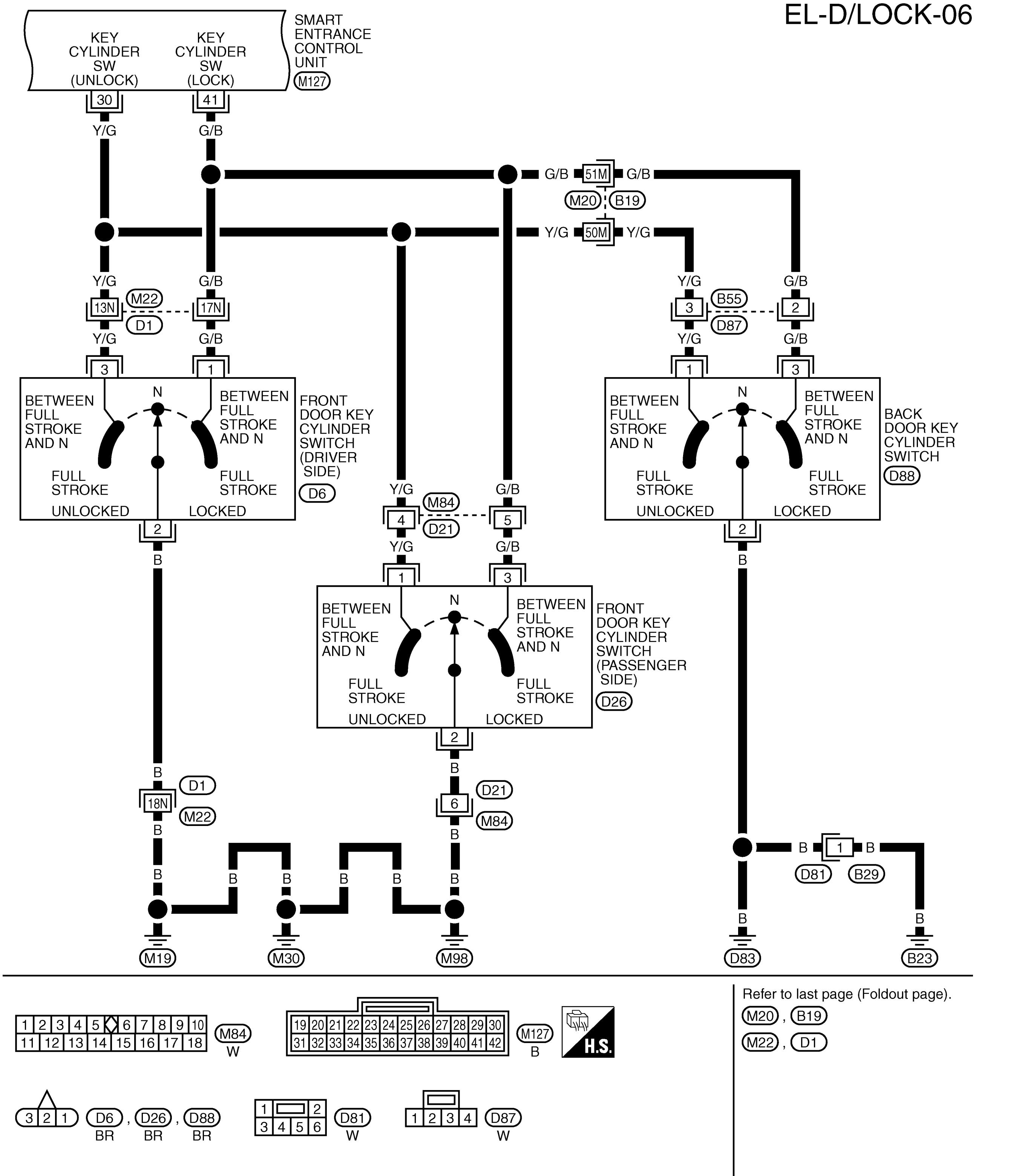
Refer to last page (Foldout page).
M20, B19

TEL575M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Wiring Diagram — D/LOCK —/With Theft Warning System Models (Cont'd)

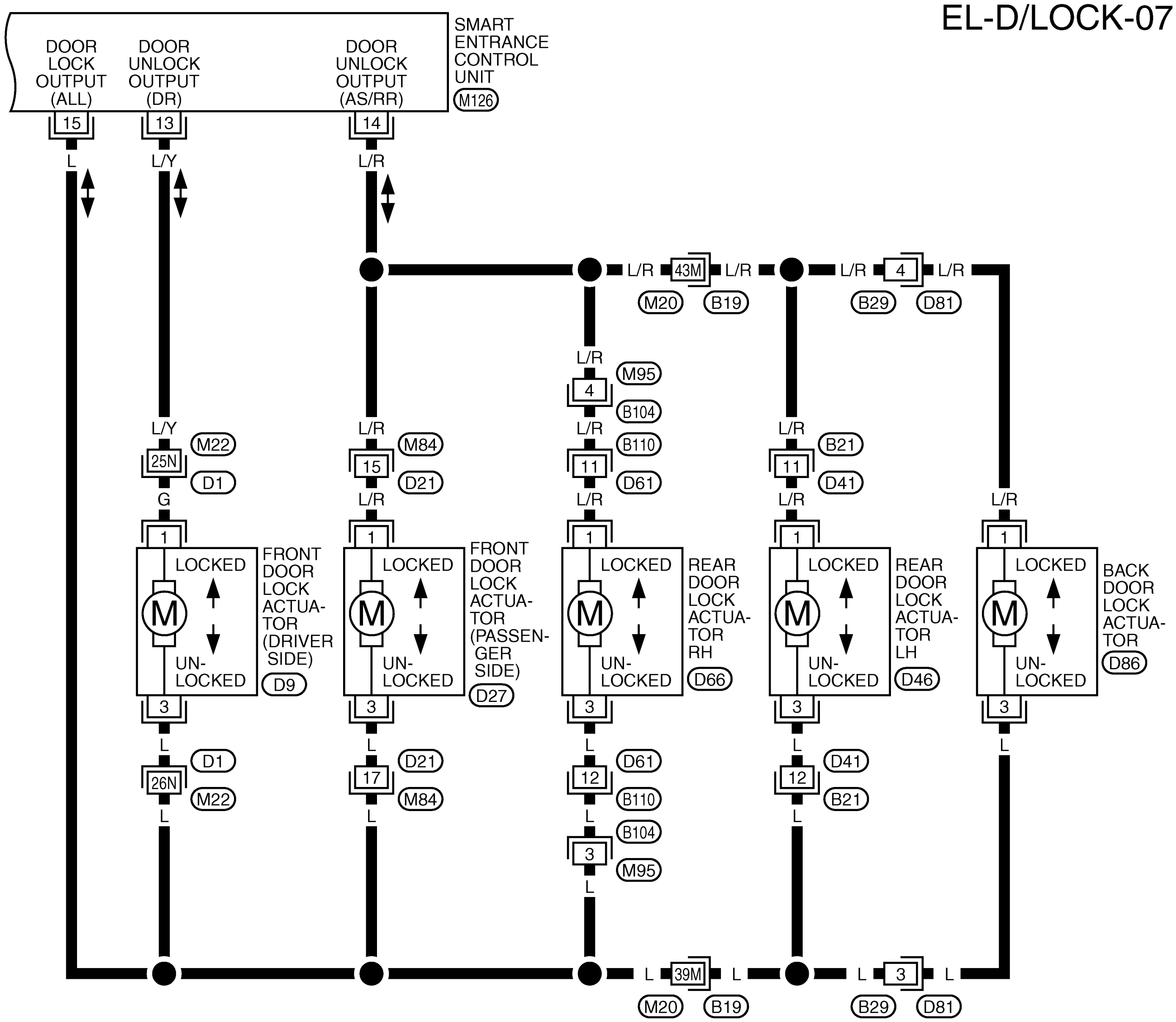
EL-D/LOCK-06

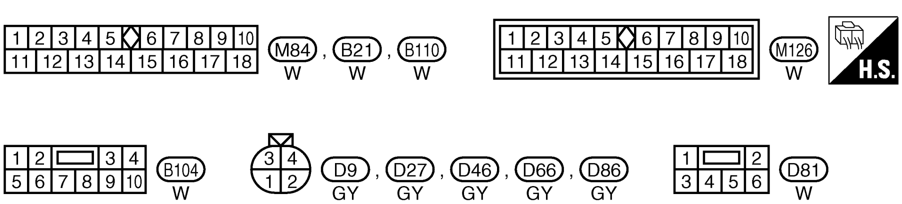


Refer to last page (Foldout page).
M20, B19
M22, D1

Wiring Diagram — D/LOCK —/With Theft Warning System Models (Cont'd)

EL-D/LOCK-07



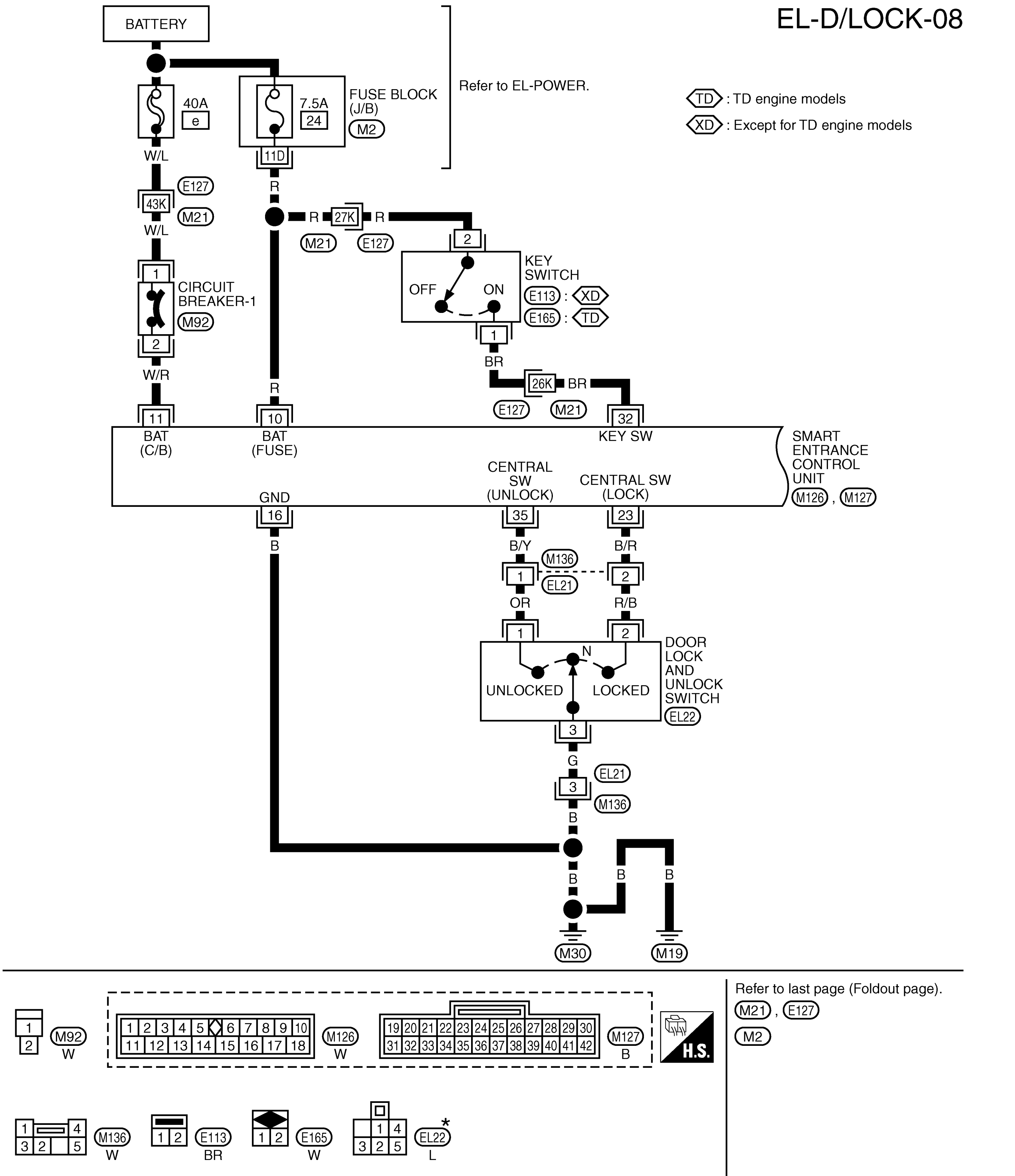


Refer to last page (Foldout page).
M20, B19
M22, D1

TEL577M

Wiring Diagram — D/LOCK —/With Theft Warning System Models (Cont'd)

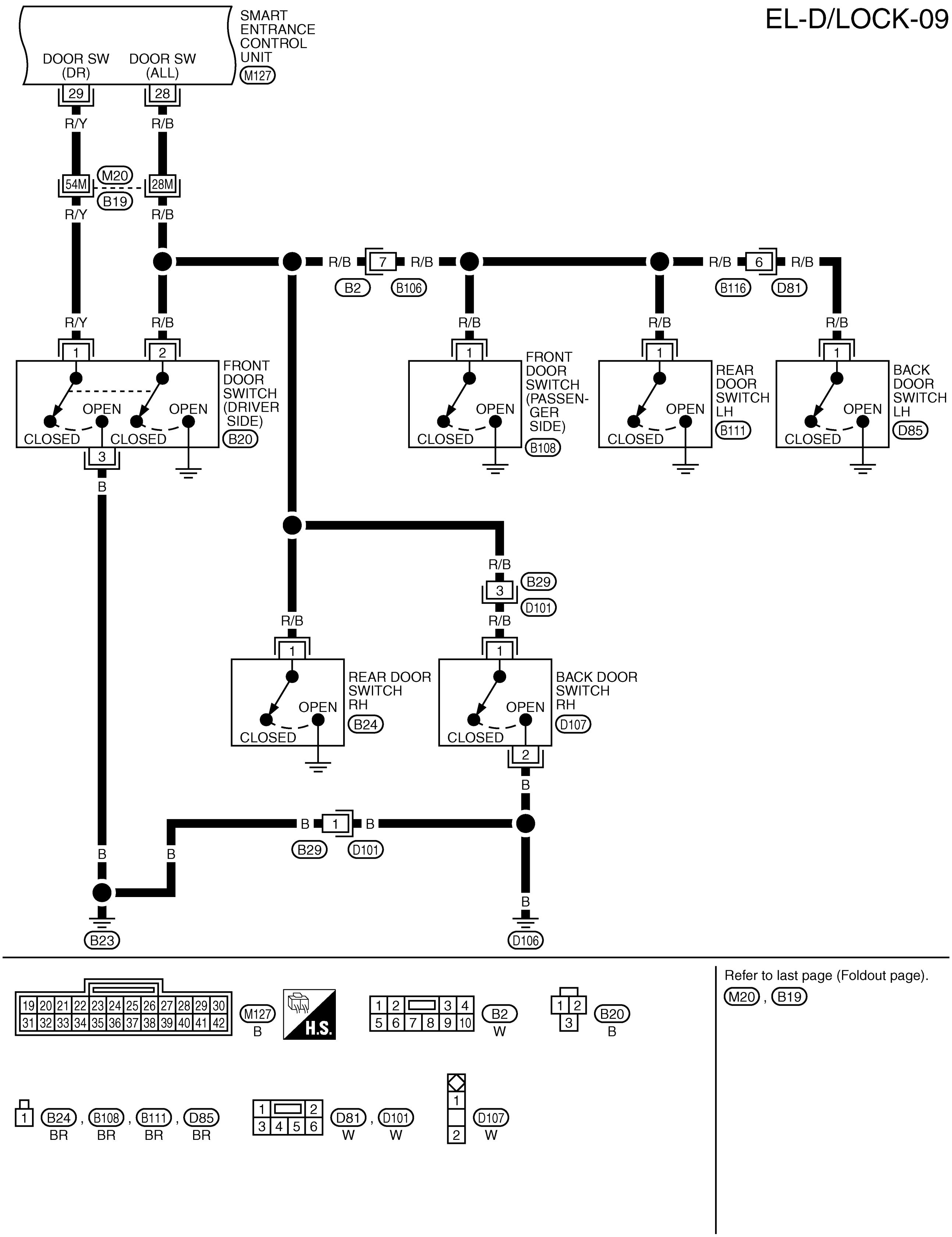
RHD MODELS



★: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL578M

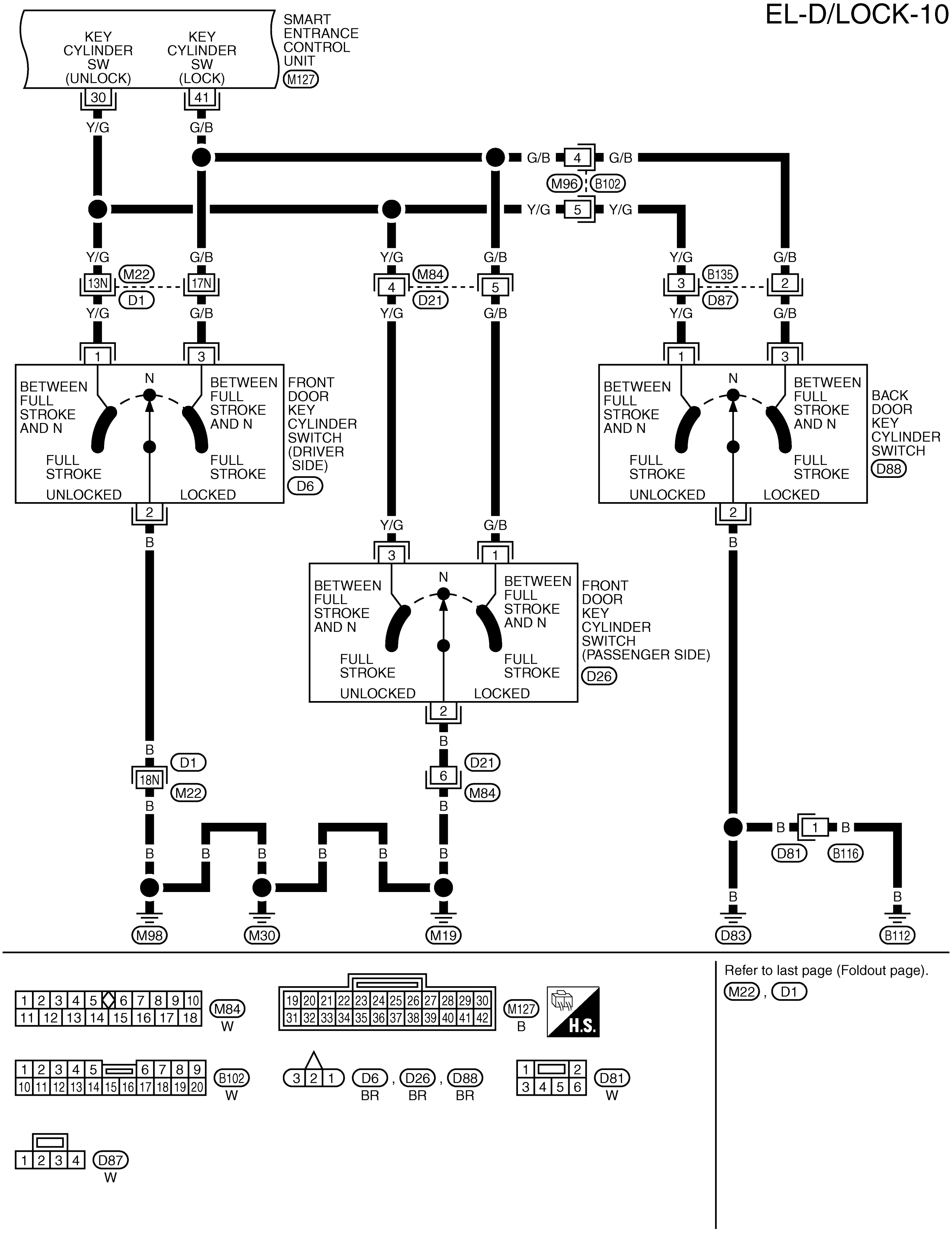
Wiring Diagram — D/LOCK —/With Theft Warning System Models (Cont'd)



TEL579M

Wiring Diagram — D/LOCK —/With Theft Warning System Models (Cont'd)

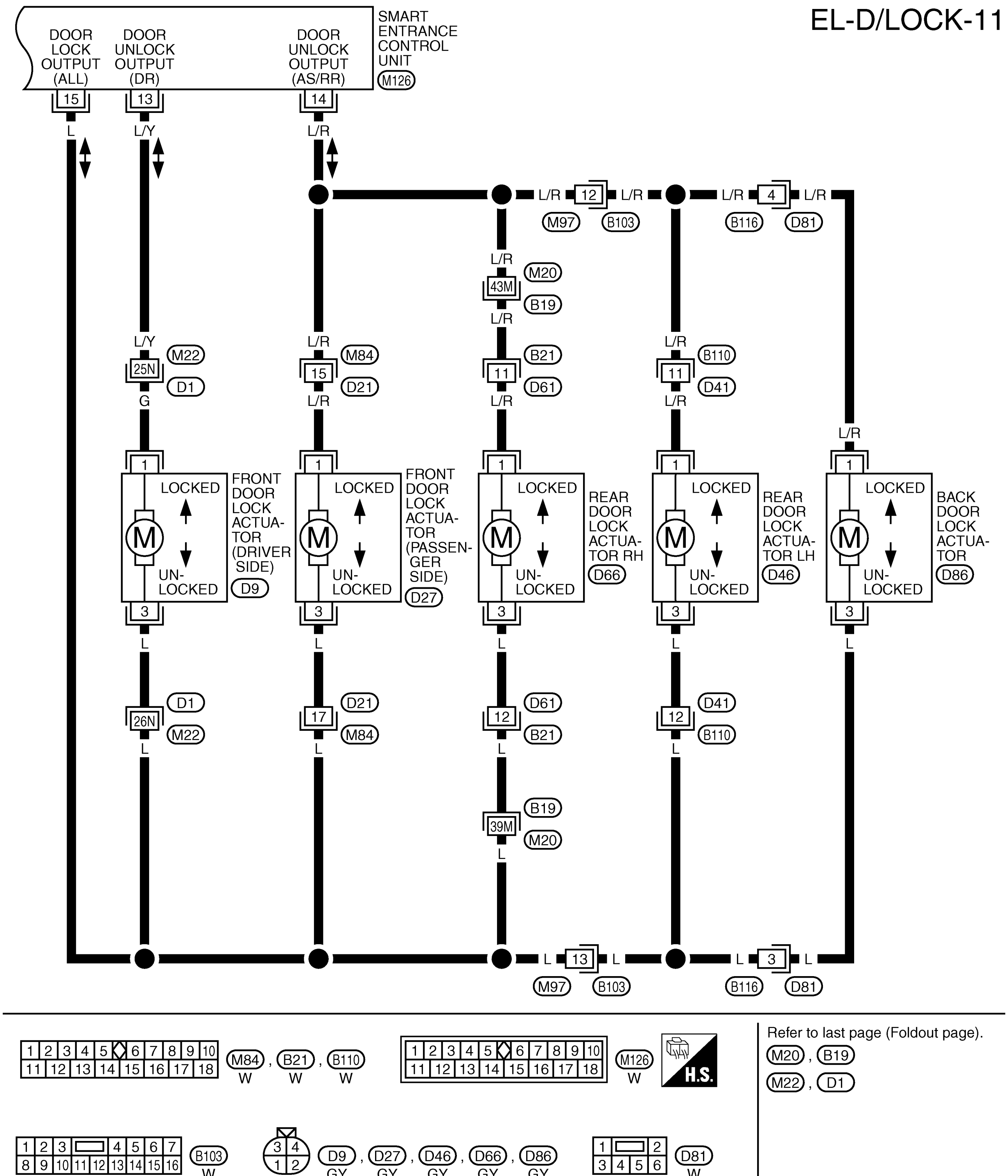
EL-D/LOCK-10



TEL580M

Wiring Diagram — D/LOCK —/With Theft Warning System Models (Cont'd)

EL-D/LOCK-11



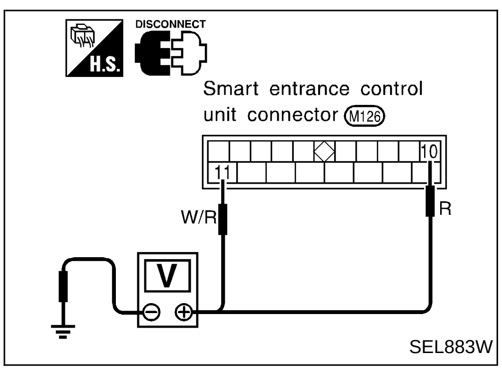
Refer to last page (Foldout page).
M20, B19
M22, D1

TEL581M

Trouble Diagnoses/With Theft Warning System Models

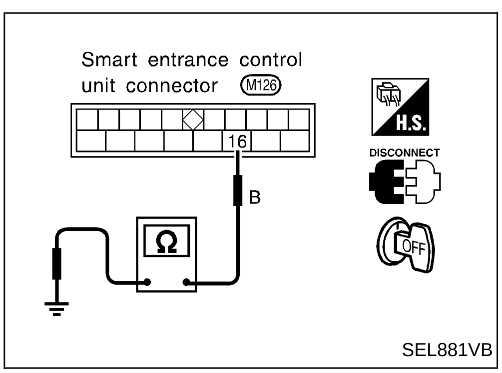
SYMPTOM CHART

REFERENCE PAGE	EL-258	EL-259	EL-260	EL-261	EL-262	EL-263
SYMPTOM	POWER SUPPLY AND GROUND CIRCUIT CHECK	DIAGNOSTIC PROCEDURE 1 (Door lock/unlock switch check)	DIAGNOSTIC PROCEDURE 2 (Door lock actuator check)	DIAGNOSTIC PROCEDURE 3 (Door key cylinder switch check)	DIAGNOSTIC PROCEDURE 4 (Door switch check)	DIAGNOSTIC PROCEDURE 5 [Key switch (insert) check]
None of the doors lock/unlock when operating any switch.	X		X			
One or more doors are not locked and/or unlocked.			X			
Door lock/unlock switch does not operate.		X				
Door key cylinder does not operate.				X		
Key reminder door system does not operate properly.					X	X



POWER SUPPLY AND GROUND CIRCUIT CHECK
Power supply circuit check

Terminal		Ignition switch		
⊕	⊖	OFF	ACC	ON
⑩	Ground	Battery voltage	Battery voltage	Battery voltage
⑪	Ground			



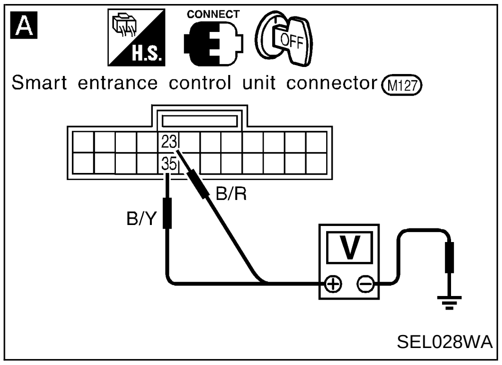
Ground circuit check

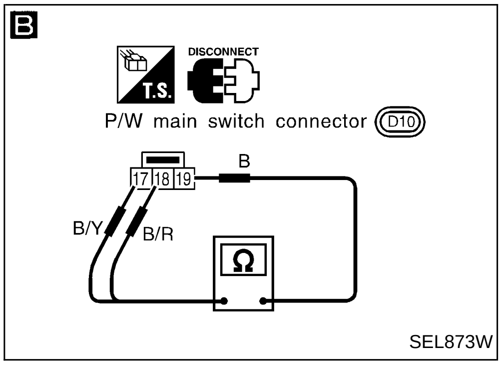
Terminals	Continuity
⑯ - Ground	Yes

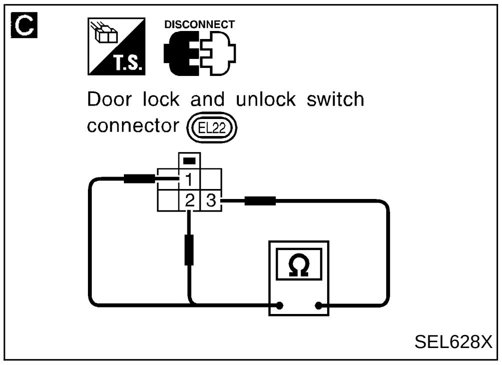
Trouble Diagnoses/With Theft Warning System Models (Cont'd)

DIAGNOSTIC PROCEDURE 1

(Door lock and unlock switch check)







A

CHECK DOOR LOCK AND UNLOCK SWITCH INPUT SIGNAL.
Check voltage between control unit terminal ㉓ or ㉟ and ground.

Terminals	Door lock and unlock switch condition	Voltage (V)
㉓ - Ground	Lock	0
	N and Unlock	Battery voltage
㉟ - Ground	Unlock	0
	N and Lock	Battery voltage

OK → Door lock and unlock switch is OK.

NG ↓

B C

CHECK DOOR LOCK AND UNLOCK SWITCH.
1. Disconnect door lock and unlock switch connector.
2. Check continuity between each door lock and unlock switch terminals.

B Power window main switch [Door lock and unlock switch (with power window)]

Condition	Terminals		
	17	18	19
Unlock	O—	——	—O
N	No continuity		
Lock		O—	—O

C Door lock and unlock switch (without power window)

Condition	Terminals		
	1	2	3
Lock		O—	—O
N	No continuity		
Unlock	O—	——	—O

NG → Replace power window main switch (with power window) or door lock and unlock switch (without power window).

OK ↓

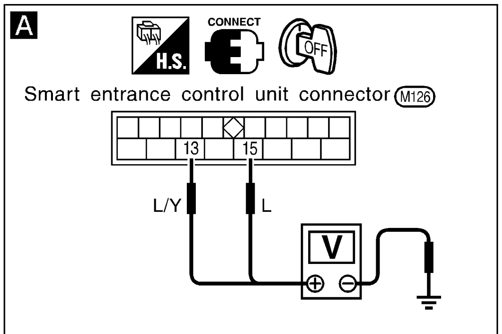
Check the following.
- Ground circuit for power window main switch [Door lock and unlock switch (with power window)] or door lock and unlock switch (without power window)
- Harness for open or short between power window main switch [Door lock and unlock switch (with power window)] or door lock and unlock switch (without power window) and control unit connector

Trouble Diagnoses/With Theft Warning System Models (Cont'd)

DIAGNOSTIC PROCEDURE 2

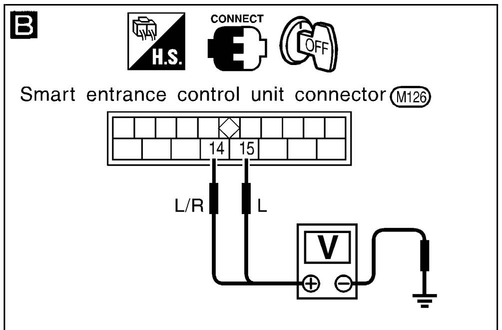
(Door lock actuator check)

A



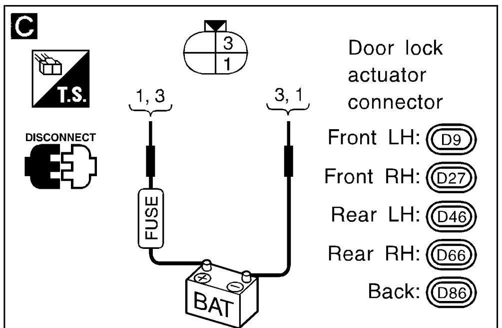
SEL031WA

B



SEL032WA

C



SEL874W

A B

CHECK DOOR LOCK ACTUATOR CIRCUIT.

Check voltage for door lock actuator.

A Door lock actuator front LH

Door lock/unlock switch condition	Terminals		Voltage (V)
	⊕	⊖	
Lock	15	Ground	Battery voltage
Unlock	13	Ground	

B Door lock actuator front RH, rear and back

Door lock/unlock switch condition	Terminals		Voltage (V)
	⊕	⊖	
Lock	15	Ground	Battery voltage
Unlock	14	Ground	

NG → Replace smart entrance control unit. (Before replacing control unit, perform DIAGNOSTIC PROCEDURE 1.)

↓ OK

C

CHECK DOOR LOCK ACTUATOR.

1. Disconnect door lock actuator connector.
2. Apply 12V direct current to door lock actuator and check operation.

Door lock actuator operation	Terminals	
	⊕	⊖
Unlocked → Locked	3	1
Locked → Unlocked	1	3

NG → Replace door lock actuator.

↓ OK

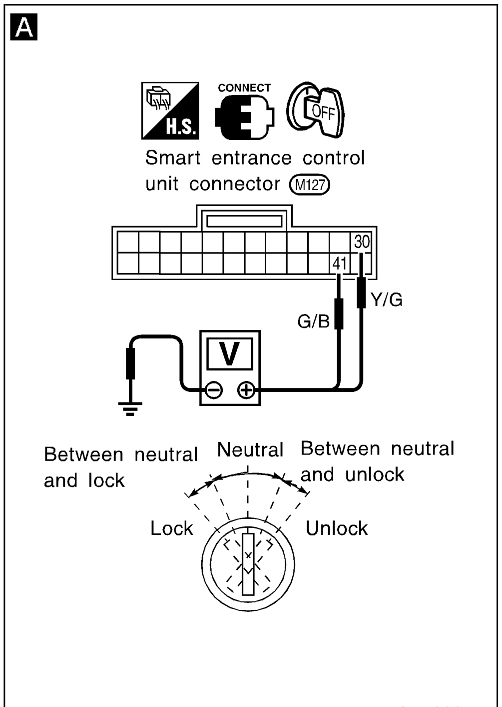
Repair harness between smart entrance control unit connector and door lock actuator.

Trouble Diagnoses/With Theft Warning System Models (Cont'd)

DIAGNOSTIC PROCEDURE 3

(Door key cylinder switch check)

A



SEL038WA

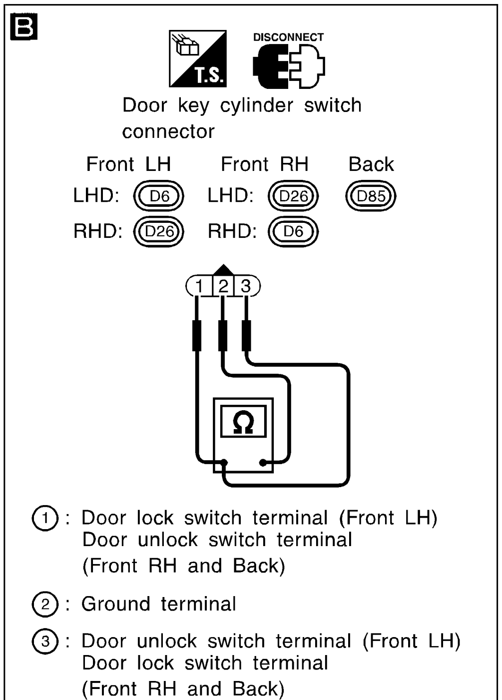
CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL).
Check voltage between smart entrance control unit terminal ㉚ or ㊶ and ground.

Terminals ⊕	Terminals ⊖	Key position	Voltage [V]
㊶	Ground	Between neutral and lock	0
		Other positions	Approx. 5
㉚	Ground	Between neutral and unlock	0
		Other positions	Approx. 5

OK → Door key cylinder switch is OK.

NG ↓

B



SEL875WB

CHECK DOOR KEY CYLINDER SWITCH.
1. Disconnect door key cylinder switch connector.
2. Check continuity between door key cylinder switch terminals.

Terminals	Key position	Continuity
Front LH: ① - ② Front RH and Back: ③ - ②	Neutral	No
	Between neutral and lock	Yes
Front LH: ③ - ② Front RH and Back: ① - ②	Neutral	No
	Between neutral and unlock	Yes

NG → Replace door key cylinder switch.

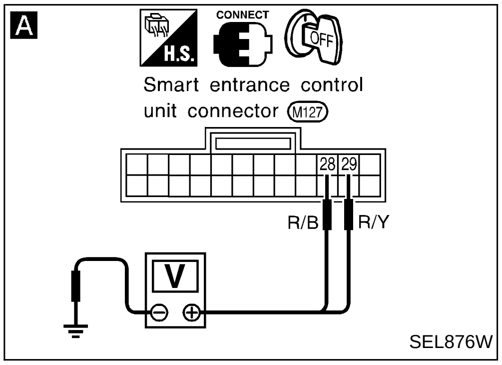
OK ↓

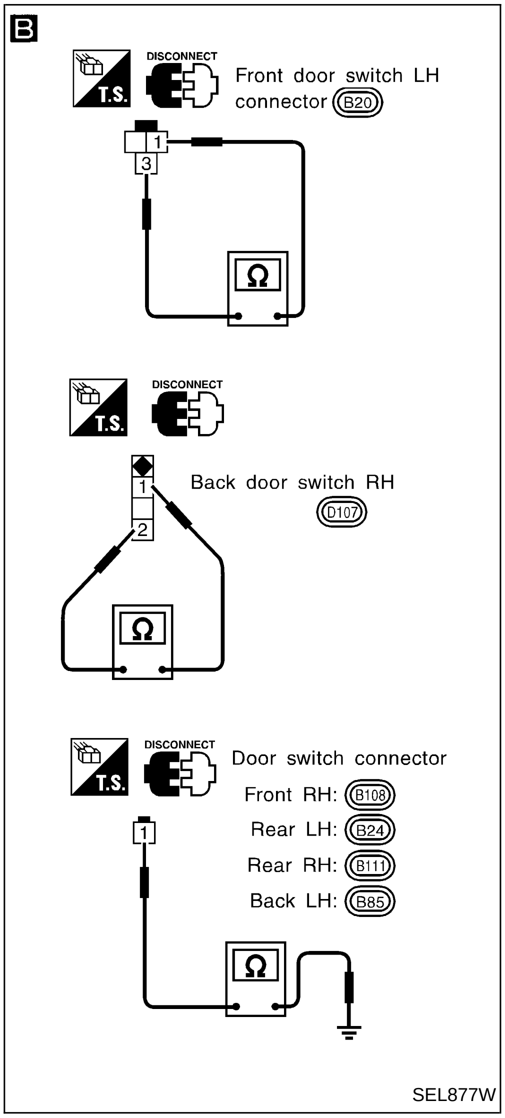
Check the following.
- Door key cylinder switch ground circuit
- Harness for open or short between smart entrance control unit and door key cylinder switch

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Trouble Diagnoses/With Theft Warning System Models (Cont'd)

DIAGNOSTIC PROCEDURE 4
(Door switch check)





A

CHECK DOOR SWITCH INPUT SIGNAL.
Check voltage between smart entrance control unit terminal ㉘ or ㉙ and ground.

	Terminals		Condition	Voltage [V]
	⊕	⊖		
Front LH door switch	㉙	Ground	Open	0
			Closed	Approx. 5
Front door, Rear and back door switch	㉘	Ground	Open	0
			Closed	Approx. 5

OK → Door switch is OK.

NG ↓

B

CHECK DOOR SWITCH.
1. Disconnect door switch connector.
2. Check continuity between door switch terminals.

	Terminals	Condition	Continuity
Front LH door switch	① - ③	Closed	No
		Open	Yes
Back door switch RH	① - ②	Closed	No
		Open	Yes
Other door switches	① - Ground	Closed	No
		Open	Yes

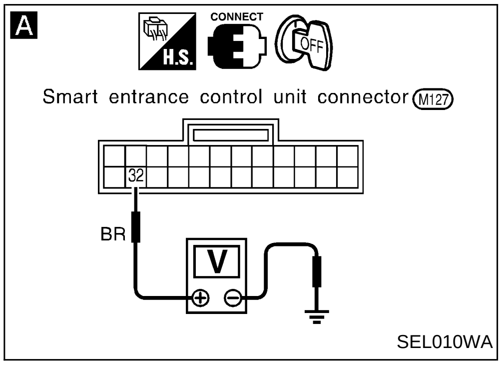
NG → Replace door switch.

OK ↓

Check the following.
- Door switch ground circuit (Front LH, back door RH) or door switch ground condition
- Harness for open or short between smart entrance control unit and door switch

Trouble Diagnoses/With Theft Warning System Models (Cont'd)

DIAGNOSTIC PROCEDURE 5
[Key switch (insert) check]



SEL010WA

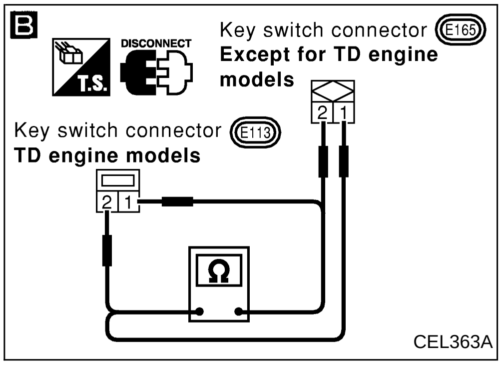
A

CHECK KEY SWITCH INPUT SIGNAL CHECK.
Check voltage between smart entrance control unit terminal ㉜ and ground.

Condition of key switch	Voltage [V]
Key is inserted.	Approx. 12
Key is removed.	0

OK → Key switch is OK.

NG ↓



CEL363A

B

CHECK KEY SWITCH.
1. Disconnect key switch connector.
2. Check continuity between key switch terminals.

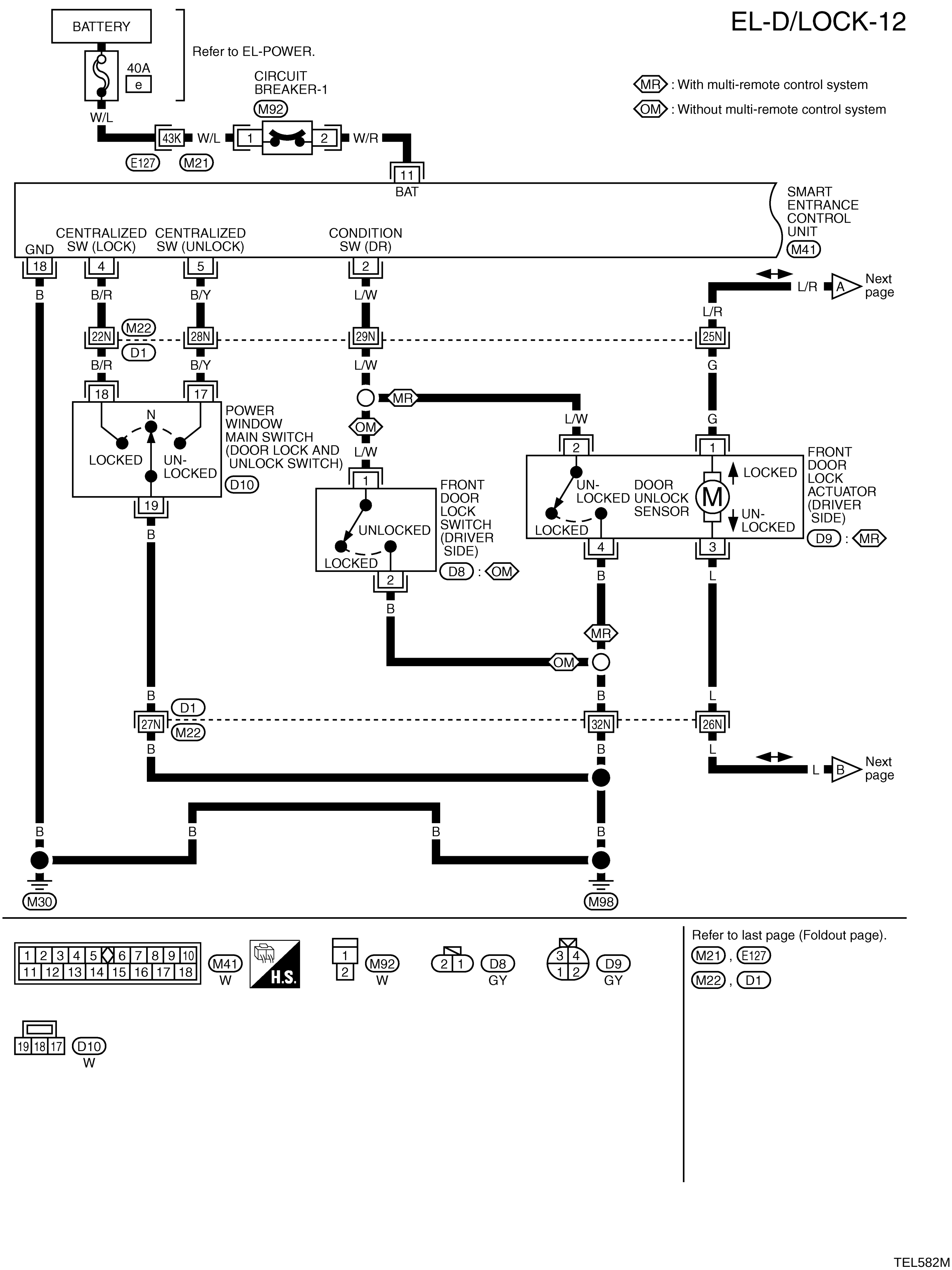
Terminals	Condition	Continuity
① - ②	Key is inserted.	Yes
	Key is removed.	No

NG → Replace key switch.

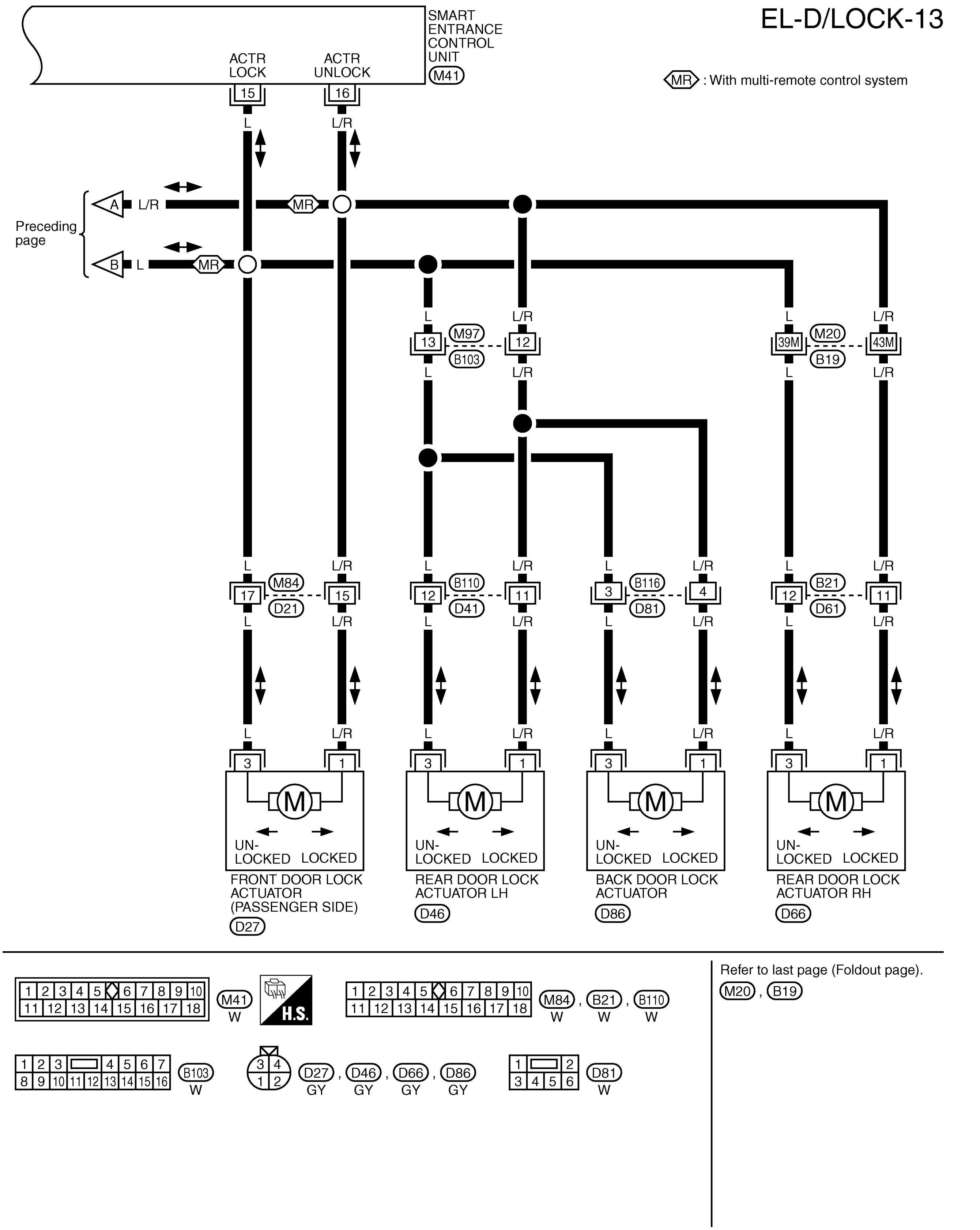
OK ↓

Check the following.
- 7.5A fuse [No. 24, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between smart entrance control unit and key switch

Wiring Diagram — D/LOCK—/For South Africa



Wiring Diagram — D/LOCK—/For South Africa (Cont'd)



TEL583M

System Description/Except for Europe and With Theft Warning System Models

FUNCTION

Multi-remote control system has the following function.
- Door lock
- Door unlock
- Hazard reminder

LOCK OPERATION

To lock door by multi-remote controller, the following two signals must be received.
- Key switch OFF (when ignition key is not in ignition key cylinder.)
- All door switches CLOSED

When the LOCK signal is input to multi-remote control unit (the antenna of the system is combined with multi-remote control unit), ground is supplied
- through multi-remote control unit terminal ⑭
- to combination meter terminal ㉒.

Then combination meter supplies power and ground to each door lock actuator except driver side.
Driver side door lock actuator is supplied power and ground directly from multi-remote control unit to lock the door.

UNLOCK OPERATION

To unlock door by multi-remote controller, the following signal must be received.
- Key switch OFF (when ignition key is not in ignition key cylinder)

When the UNLOCK signal is input to multi-remote control unit (the antenna of the system is combined with multi-remote control unit), ground is supplied
- through multi-remote control unit terminal ⑮
- to combination meter terminal ㉓.

Then combination meter supplies power and ground to each door lock actuator except driver side.
Driver side will be unlocked in the same manner as lock operation.

HAZARD REMINDER

When the doors are locked or unlocked by multi-remote controller, power is supplied
- through multi-remote control unit terminals ③ and ④
- to the hazard warning lamps

Then hazard warning lamp flash as follows.
- Lock operation: Flash once
- Unlock operation: Flash twice

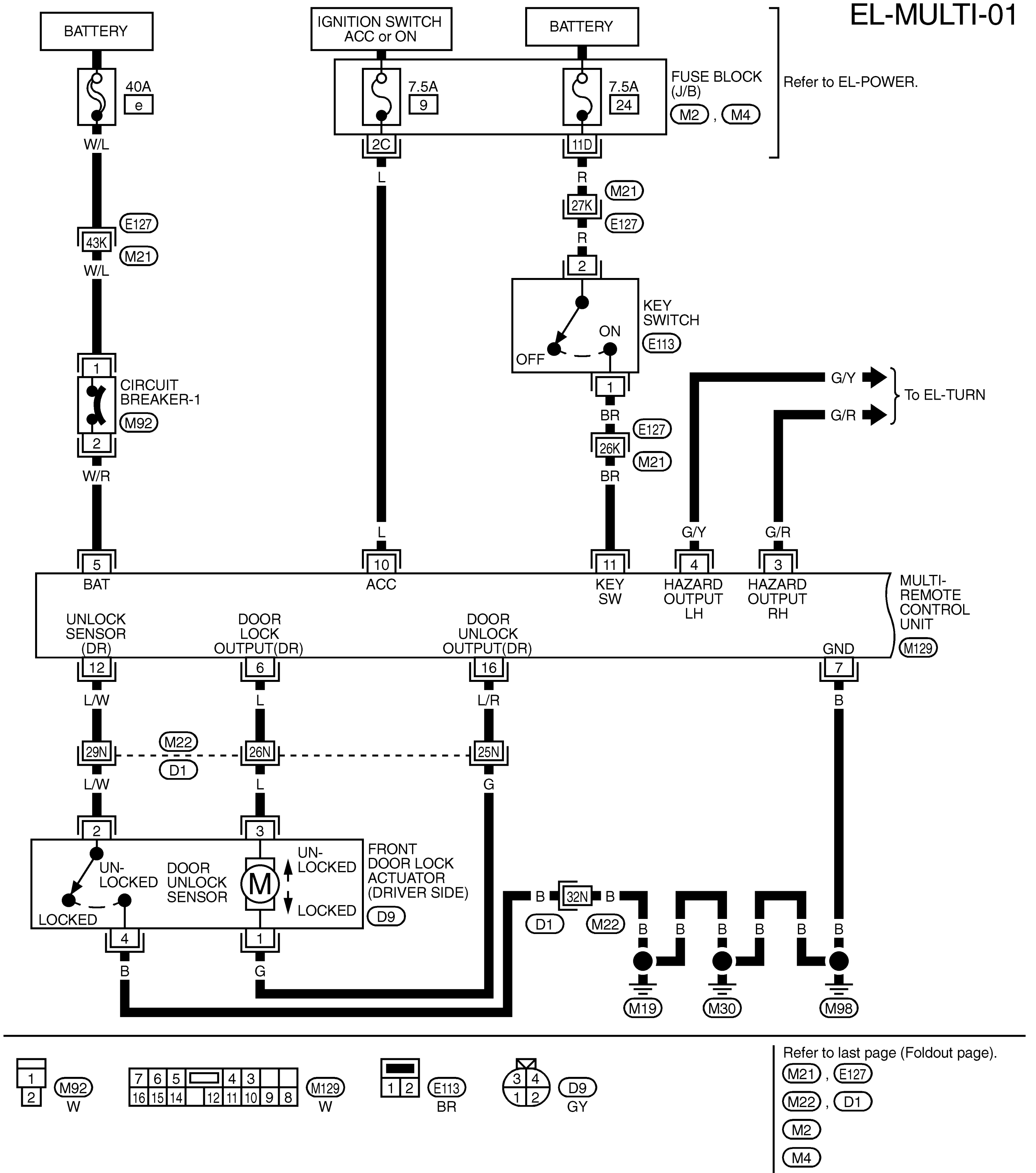
MULTI-REMOTE CONTROLLER ID CODE ENTRY

A maximum of four remote controllers can be entered. Any attempt to enter a remote controller will erase all ID codes previously entered. Therefore, be sure to receive all remote controllers from the vehicle owner when any ID code entry is performed.
To enter ID code entry, the following signals must be input to the multi-remote control unit.
- Driver side LOCKED signal (from driver side door unlock sensor)
- Door switch CLOSED signal
- Key switch signal (INSERTED/WITHDRAWN)
- Accessory power supply
- Signal from remote controller

For detailed procedure, refer to “ID Code Entry Procedure” in EL-274.

Wiring Diagram — MULTI —/Except for Europe and With Theft Warning System Models

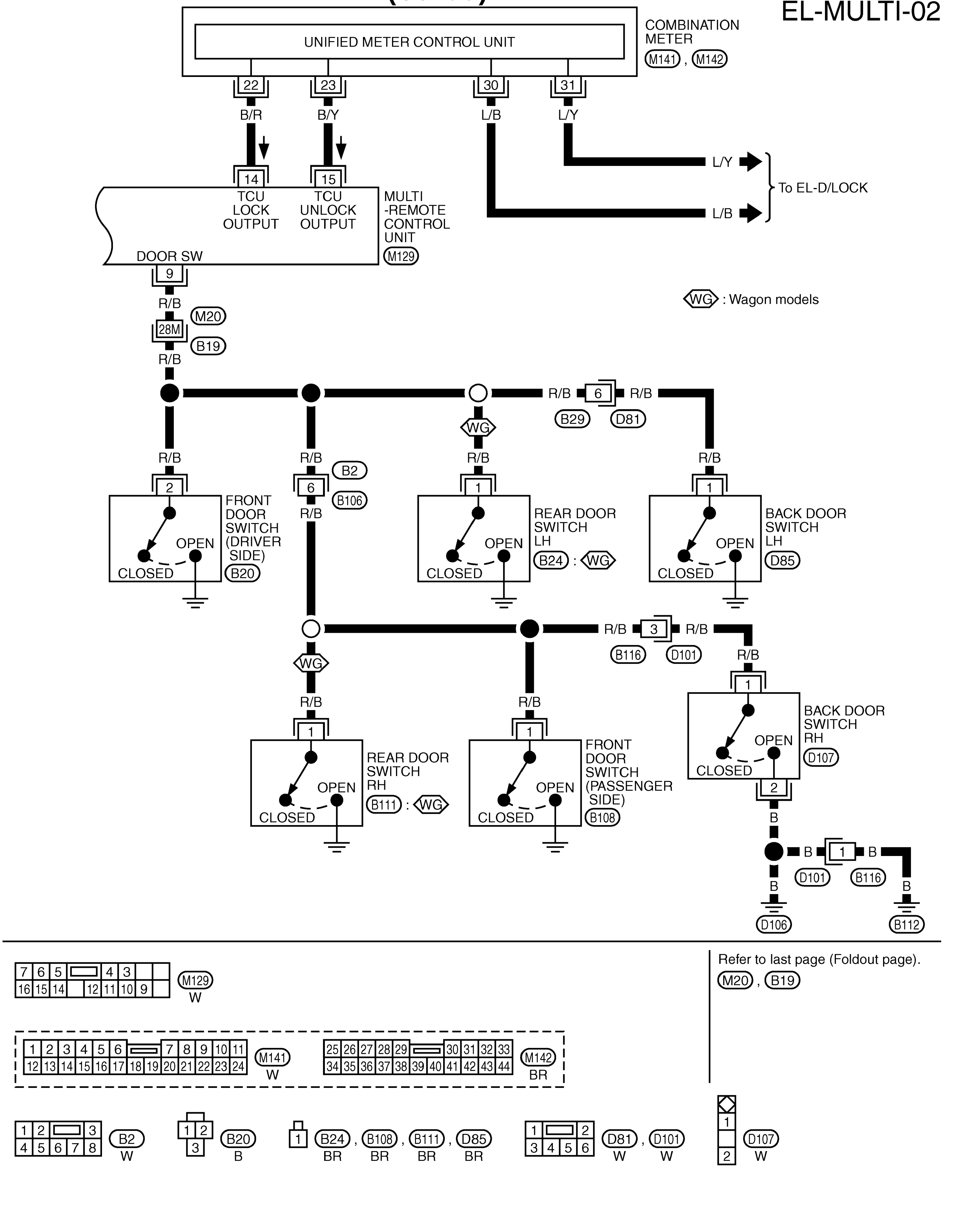
LHD MODELS



TEL592B

Wiring Diagram — MULTI —/Except for Europe and With Theft Warning System Models (Cont'd)

EL-MULTI-02

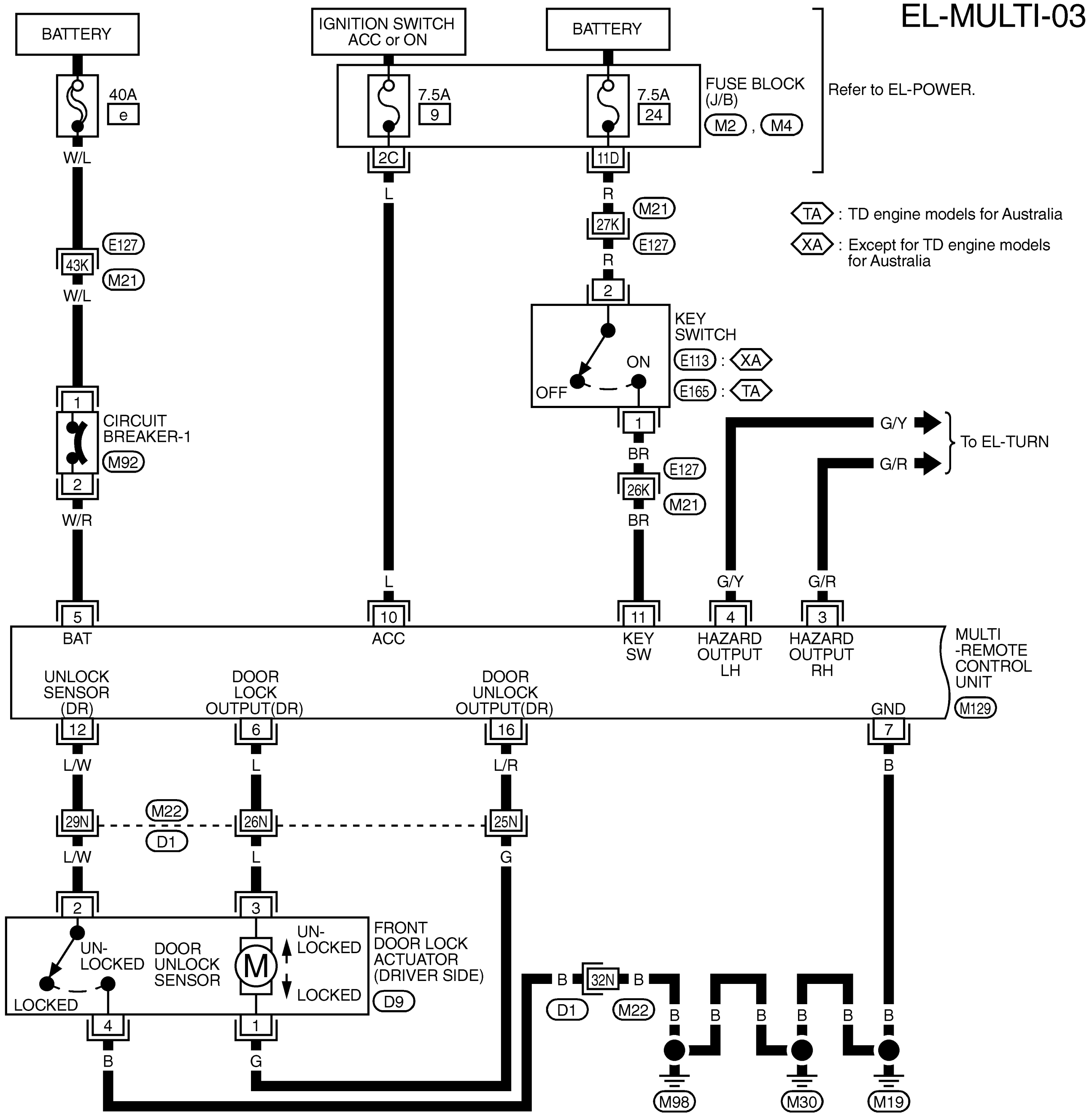


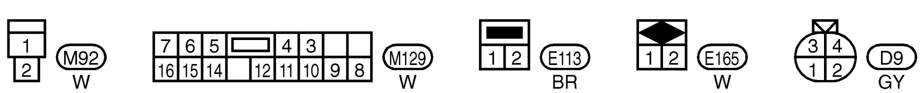
Refer to last page (Foldout page).
M20, B19

TEL475M

Wiring Diagram — MULTI —/Except for Europe and With Theft Warning System Models (Cont'd)

RHD MODELS





Refer to last page (Foldout page).

M21, E127

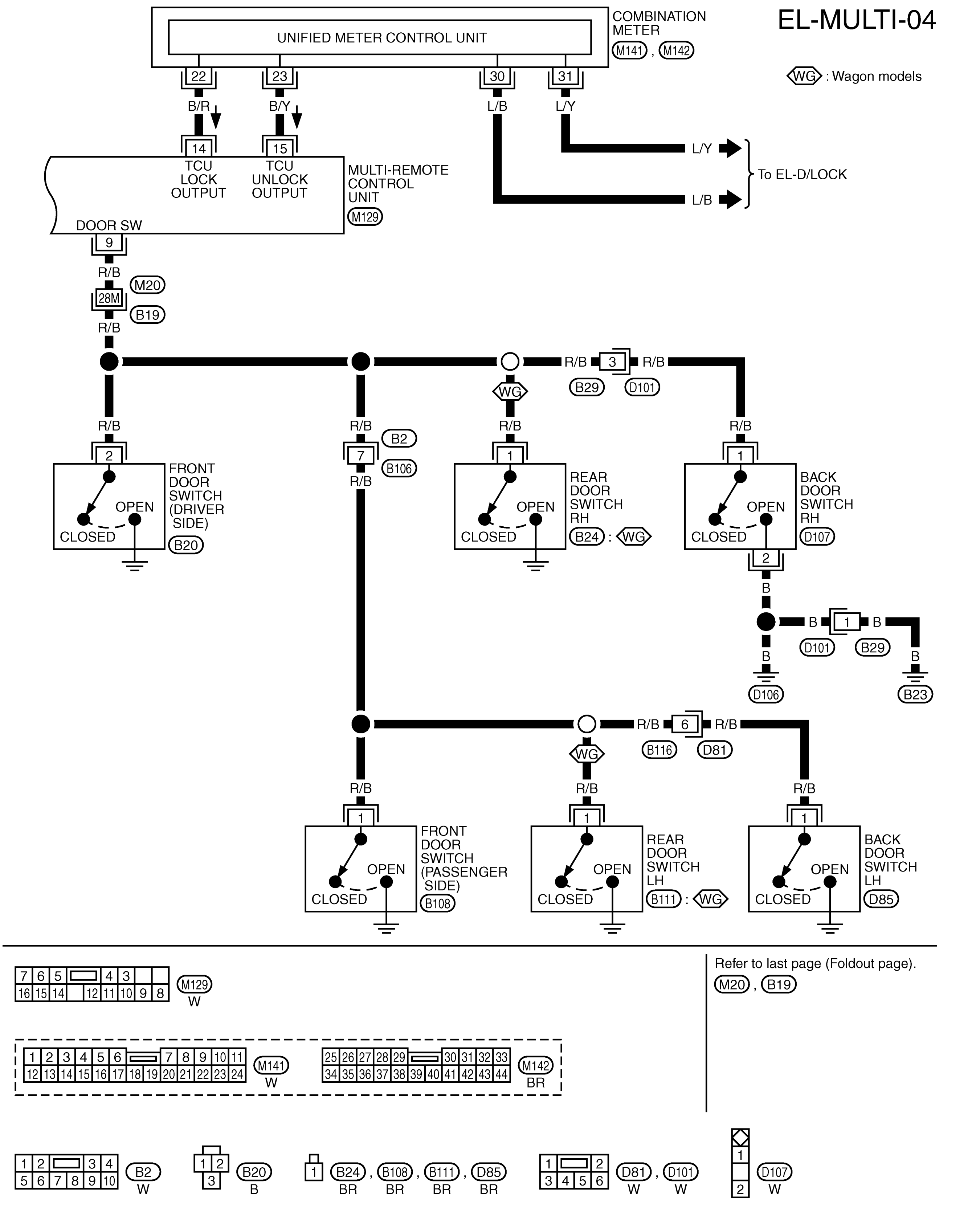
M22, D1

M2

M4

TEL276M

Wiring Diagram — MULTI —/Except for Europe and With Theft Warning System Models (Cont'd)



Trouble Diagnoses/Except for Europe and With Theft Warning System Models

SYMPTOM CHART

Symptom	Possible cause	Diagnoses/service order
No doors can be locked or unlocked by remote control operation. (See NOTE.)	1. Remote controller battery 2. Key switch (insert) 3. Door switch 4. Power supply circuit for multi-remote control unit 5. Ground circuit for multi-remote control unit 6. Remote controller	1. Check remote controller battery. Refer to EL-272. 2. Check key switch (insert) signal at terminal ⑪ of multi-remote control unit. 3. Check door switch signal at terminals ⑧ and ⑨ of multi-remote control unit. 4. Make sure battery voltage is present at terminal ⑤ of multi-remote control unit. 5. Check continuity between terminal ⑦ of multi-remote control unit and ground. 6. Replace remote controller. Refer to EL-325.
Driver's door cannot be locked or unlocked by remote control operation.	1. Lock/unlock output to driver's door lock actuator	1. Check lock/unlock output to driver's door lock actuator at terminals ⑥ and ⑯ of multi-remote control unit. (See NOTE.)
Doors other than driver side cannot be locked or unlocked by remote control operation. (If the power door lock system does not operate correctly, check power door lock system.)	1. Lock/unlock signal to combination meter	1. Check lock/unlock signal to combination meter at terminals ㉒ and ㉓ of multi-remote control unit. (See NOTE.)
Hazard reminder does not operate properly.	1. Hazard reminder output to hazard warning lamps 2. Hazard reminder circuit	1. Check hazard reminder output to hazard warning lamps at terminals ③ and ④ of multi-remote control unit. 2. Check the harness for open or short between hazard warning lamps and multi-remote control unit.
The new ID of remote controller cannot be entered.	1. Remote controller battery 2. Key switch (insert) 3. Door switch 4. Driver's door unlock sensor 5. Accessory power supply circuit for multi-remote control unit 6. Remote controller	1. Check remote controller battery. Refer to EL-272. 2. Check key switch (insert) signal at terminal ⑪ of multi-remote control unit. 3. Check door switch signal at terminals ⑧ and ⑨ of multi-remote control unit. 4. Check driver's door unlock sensor signal at terminal ⑫ of multi-remote control unit. 5. Make sure battery voltage is present at terminal ⑩ of multi-remote control unit while ignition switch is in ACC position. 6. Replace remote controller. Refer to EL-274.

Refer to "MULTI-REMOTE CONTROL UNIT INSPECTION TABLE" on next page to check the control unit signals.

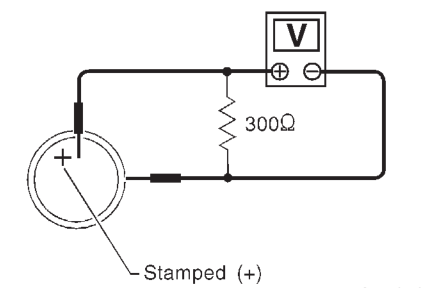
NOTE:
- The unlock operation of multi-remote control system does not activate with key inserted in the ignition key cylinder.
- The lock operation of multi-remote controller does not activate with the key inserted ignition key cylinder or if one of the door is opened.

Trouble Diagnoses/Except for Europe and With Theft Warning System Models (Cont'd)

MULTI-REMOTE CONTROL UNIT INSPECTION TABLE

Terminal No.	Connections	Condition		Voltage (V) (approximate values)
3	Hazard warning lamp RH	Remote controller LOCK/UNLOCK button is pushed (All doors are closed and key is not in ignition key cylinder.)		12
		Other than above condition		0
4	Hazard warning lamp LH	Remote controller LOCK/UNLOCK button is pushed (All doors are closed and key is not in ignition key cylinder.)		12
		Other than above condition		0
5	Power source (BAT)	—		12
6	Driver side door lock actuator (LOCK)	Remote controller LOCK button is pushed (All doors are closed and key is not in ignition key cylinder.)		12
		Other than above condition		0
7	Ground	—		—
8	Door switch (all doors)	One of doors is opened		0
		All doors are closed		12
9	Driver side door switch	Driver side door	Open	0
			Closed	12
10	Accessory power supply	Ignition switch	OFF	0
			ACC or ON	12
11	Key switch (insert)	Key is in ignition key cylinder		12
		Key is not in ignition key cylinder		0
12	Driver side door unlock sensor	Driver side door	Locked	5
			Unlocked	0
14	Lock signal (to smart entrance control unit)	Remote controller LOCK button is pushed (All doors are closed and key is not in ignition key cylinder.)		0
		Other than above condition		12
15	Unlock signal (to smart entrance control unit)	Remote controller UNLOCK button is pushed (Key is not in ignition key cylinder.)		0
		Other than above condition		12
16	Driver side door lock actuator (UNLOCK)	Remote controller UNLOCK button is pushed (Key is not in ignition key cylinder.)		12
		Other than above condition		0

Trouble Diagnoses/Except for Europe and With Theft Warning System Models (Cont'd)



SEL672U

REMOTE CONTROLLER BATTERY CHECK

Remove battery and measure voltage across battery positive and negative terminals, ⊕ and ⊖.

Measuring terminal		Standard value
⊕	⊖	
Battery positive terminal ⊕	Battery negative terminal ⊖	2.5 - 3.0V

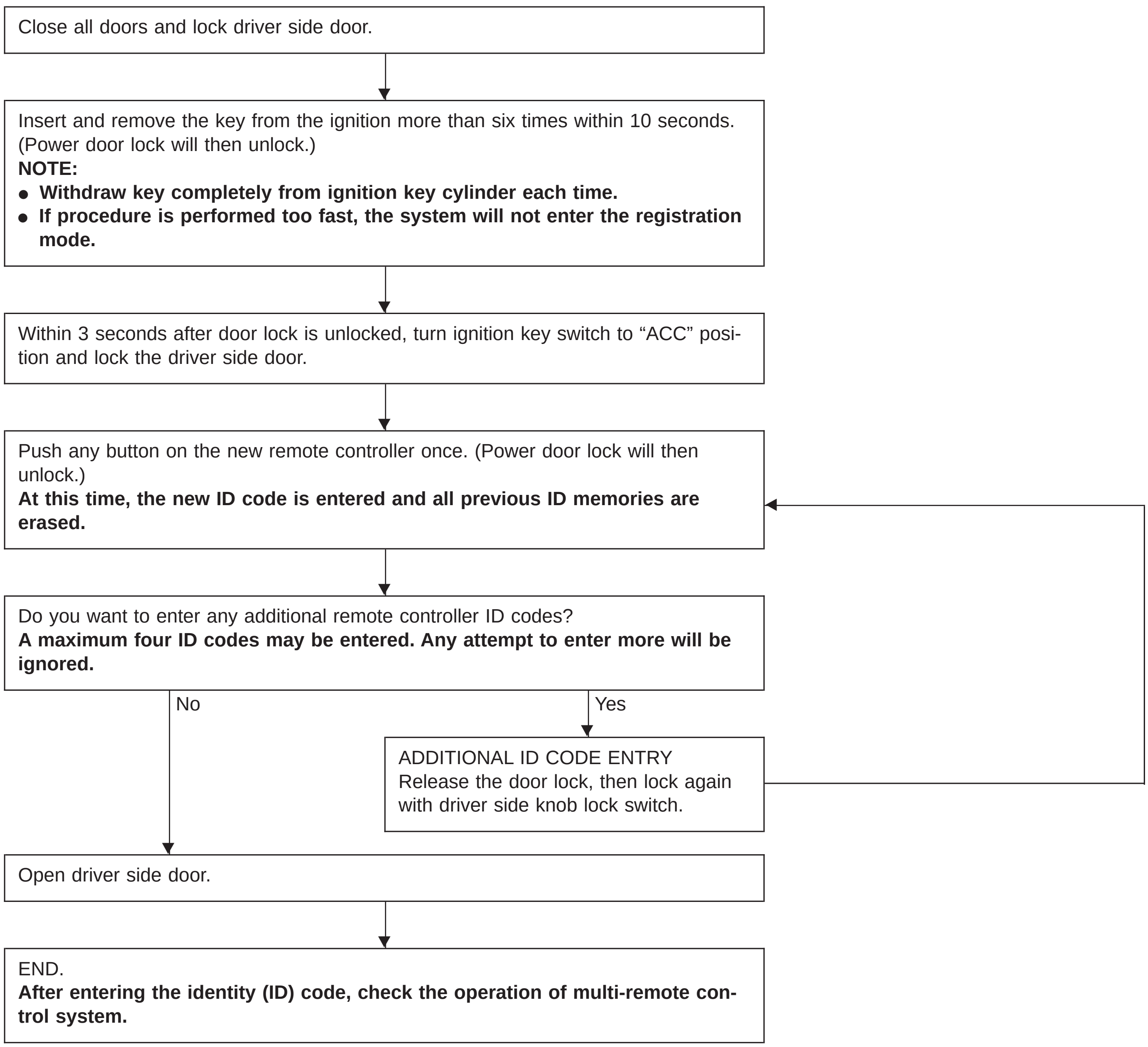
Note:
Remote controller does not function if battery is not set correctly.

ID Code Entry Procedure/Except for Europe and With Theft Warning System Models

NOTE:
A maximum of four remote controllers can be entered. Any attempt to enter a remote controller will erase all ID codes previously entered. Therefore, be sure to receive all remote controllers from the vehicle owner when any ID code entry is performed.
Enter the identity (ID) code manually when:
- remote controller or control unit is replaced.
- an additional remote controller is activated.

To enter the ID code, follow the procedures below.

PROCEDURE



NOTE:
- **If you need to activate more than two additional new remote controllers, repeat the procedure “Additional ID code entry” for each new remote controller.**
- **If the same ID code that exists in the memory is input, the entry will be ignored.**
- **Entry of maximum four ID codes is allowed and any attempt to enter more will be ignored.**
- **Any ID codes cannot be entered after termination of the “setting mode”.**

System Description/With Theft Warning System Models

Power is supplied at all times
- to smart entrance control unit terminal ⑪
- through circuit breaker-1
- through 40A fusible link (letter e located in the fuse and fusible link box),
- to key switch terminal ②, and
- to smart entrance control unit terminal ⑩
- through 7.5A fuse [No. 24 located in the fuse block (J/B)].
- to multi-remote control relay terminals ②, ⑤ and ⑦
- through 10A fuse [No. 48 located in the fuse block (J/B)] and
- to front interior room lamp terminal ①
- through 10A fuse [No. 20 located in the fuse block (J/B)].

INPUTS

When the ignition switch is in the ACC or ON position, power is supplied to smart entrance control unit terminal ㉑.
When the key switch is ON (ignition key is inserted in key cylinder), power is supplied
- through key switch terminal ①
- to smart entrance control unit terminal ㉜.

When driver side door switch is OPEN, ground is supplied
- to smart entrance control unit terminal ㉙
- through driver side door switch terminal ①
- to driver side door switch terminal ③
- through body grounds.

When front passenger side door, rear door or back door switch is OPEN, ground is supplied
- to smart entrance control unit terminal ㉘
- through door switch body ground.

Remote controller signal is entered into the smart entrance control unit. (The antenna of the system is combined with the smart entrance control unit.)

OPERATION

The multi-remote control system controls operation of the
- power door lock
- interior room lamp (for China)
- panic alarm
- hazard reminder.

Power door lock operation

When LOCK signal is sent from remote controller, all doors will be locked.
When UNLOCK signal is sent from remote controller once, driver’s door will be unlocked.
Then, if UNLOCK signal is sent from remote controller again within 5 seconds, all of the other doors will be unlocked.
The power door lock operation can be activated even though ignition key is inserted in key cylinder or any door is opened.

Interior room lamp operation (For China)

When the following input signals are both supplied:
- door switch CLOSED (when all doors are closed);
- driver’s door LOCKED (when driver’s door is locked);

multi-remote control system turns on front interior room lamp (for 30 seconds) with input of UNLOCK signal from remote controller.

Panic alarm operation

When key is not inserted in the key cylinder, multi-remote control system turns horn and headlamp on and off intermittently with input of PANIC ALARM signal from remote controller.

System Description/With Theft Warning System Models (Cont'd)

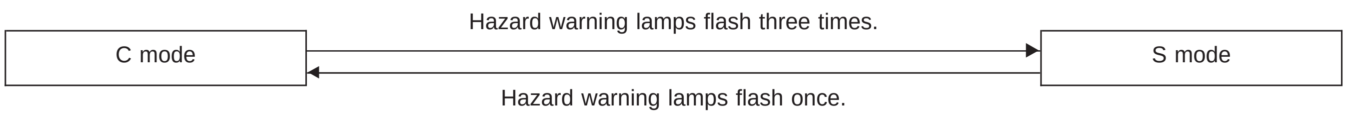
Hazard reminder operation

When all doors are closed, multi-remote control system turns hazard warning lamps on and off with input of LOCK or UNLOCK signal from remote controller.
The hazard reminder has C mode and S mode.
Hazard reminder operates as follows:

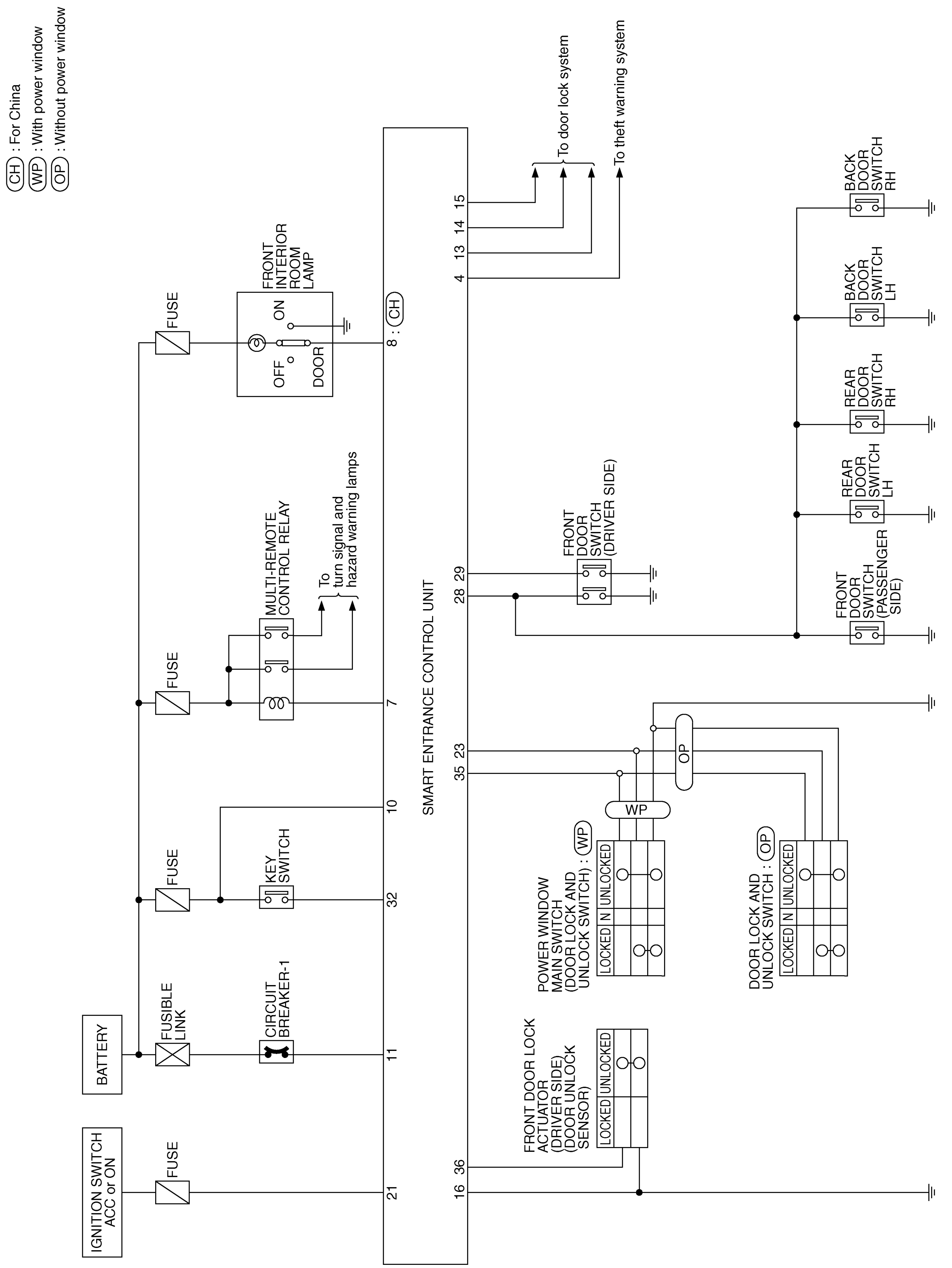
	C mode	S mode
	Hazard warning lamps	Hazard warning lamps
LOCK	Twice	Twice
UNLOCK	Once	—

How to change hazard reminder mode

The mode of hazard reminder can be changed by pressing LOCK and UNLOCK buttons of remote controller for more than 2 seconds at the same time. At this time, hazard warning lamps turn on and off as follows.



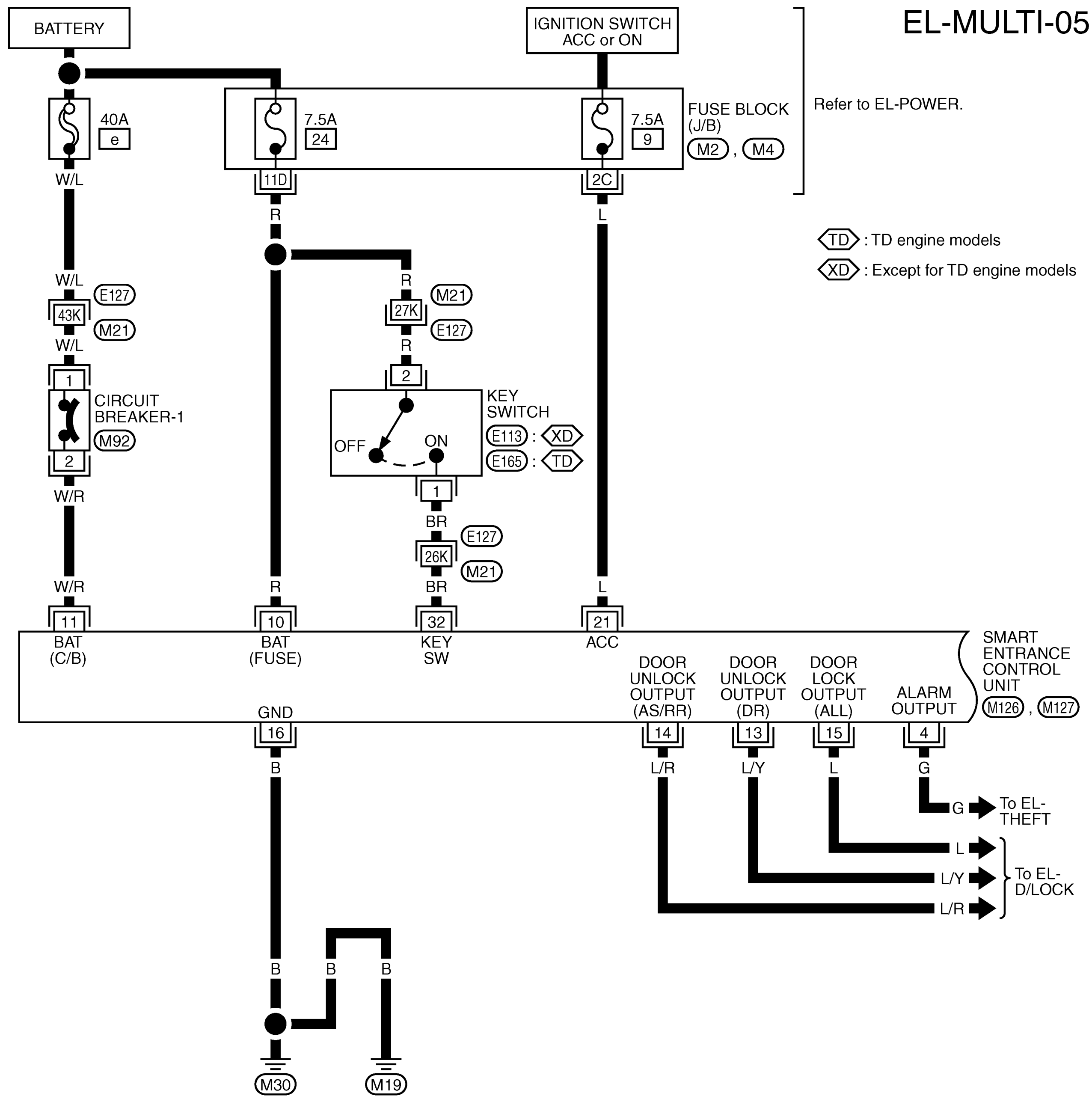
Schematic/With Theft Warning System Models

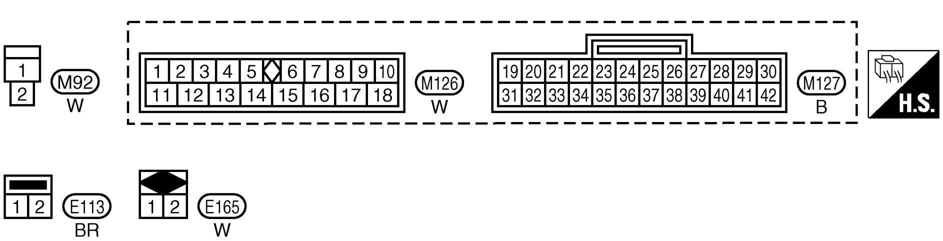


TEL584M

Wiring Diagram — MULTI —/LHD Models with Theft Warning System

EL-MULTI-05





Refer to last page (Foldout page).

M21 , E127

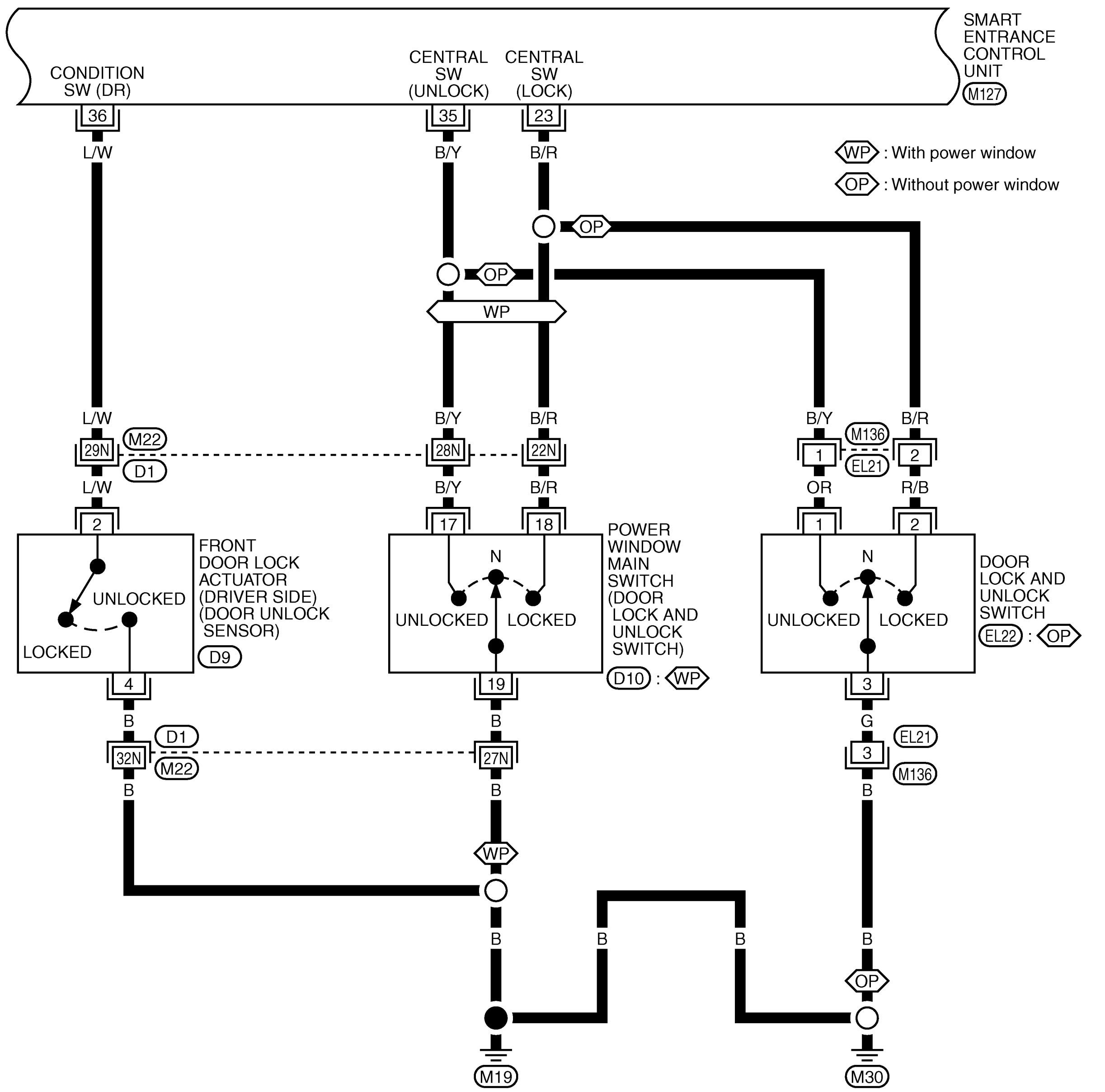
M2

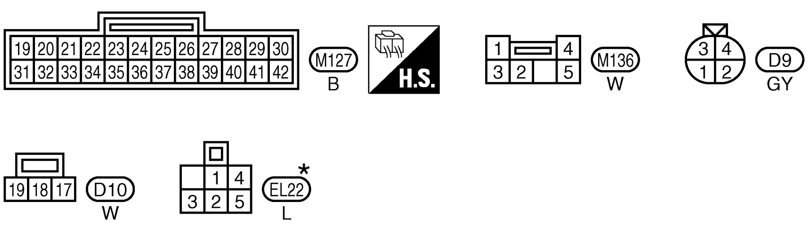
M4

TEL586M

Wiring Diagram — MULTI —/LHD Models with Theft Warning System (Cont'd)

EL-MULTI-06



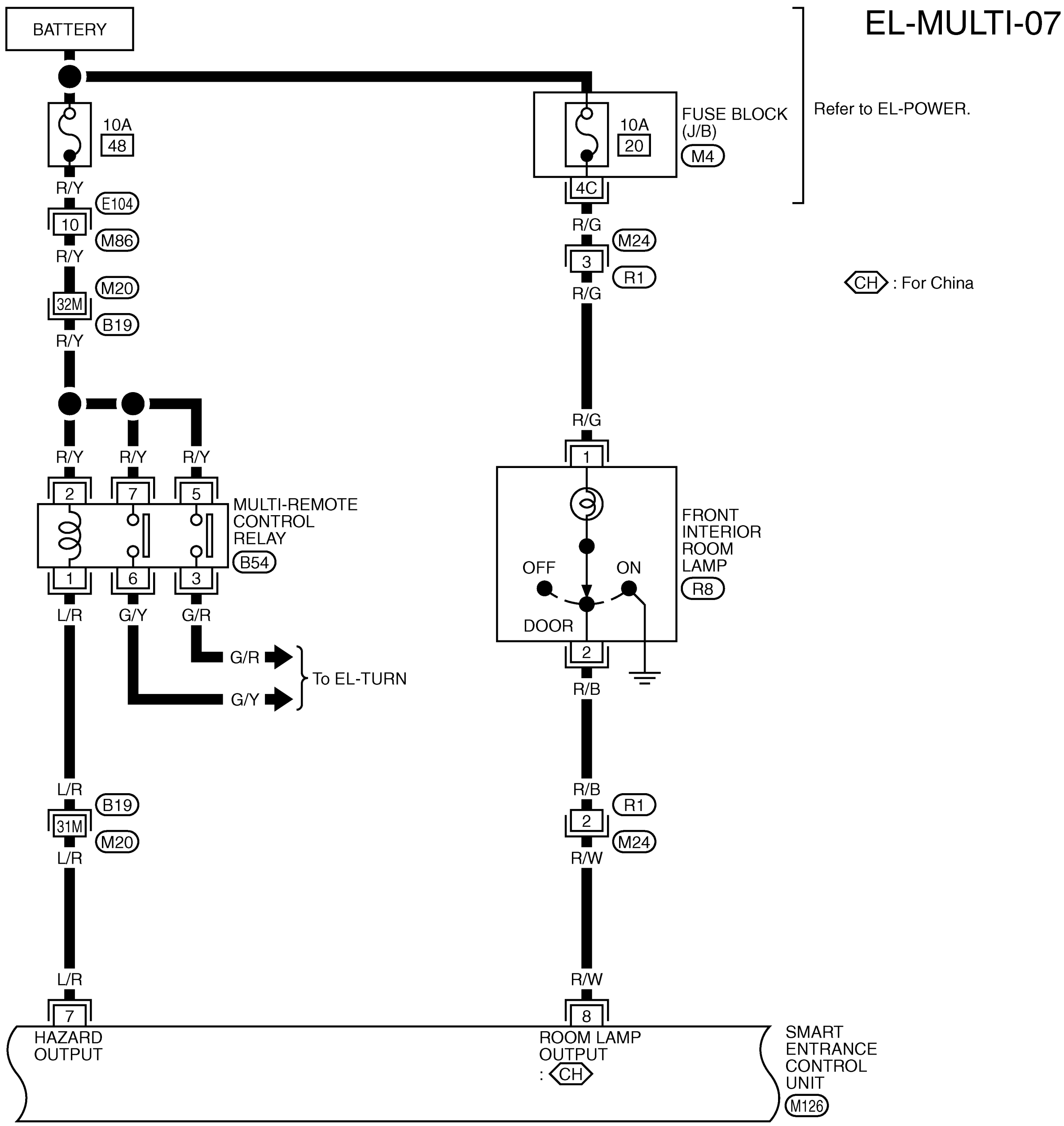


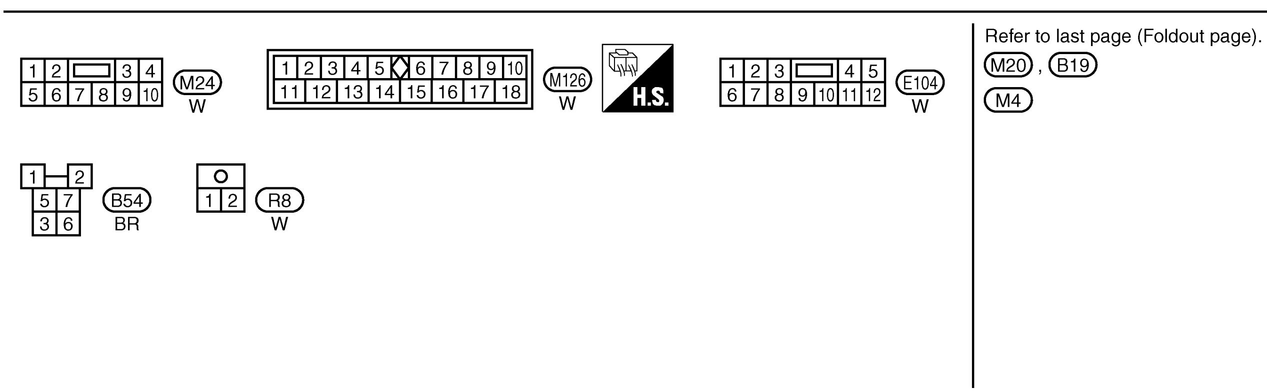
Refer to last page (Foldout page).
M22 , D1

*: This connector is not shown in "HARNESS LAYOUT", EL section.

TEL588M

Wiring Diagram — MULTI —/LHD Models with Theft Warning System (Cont'd)

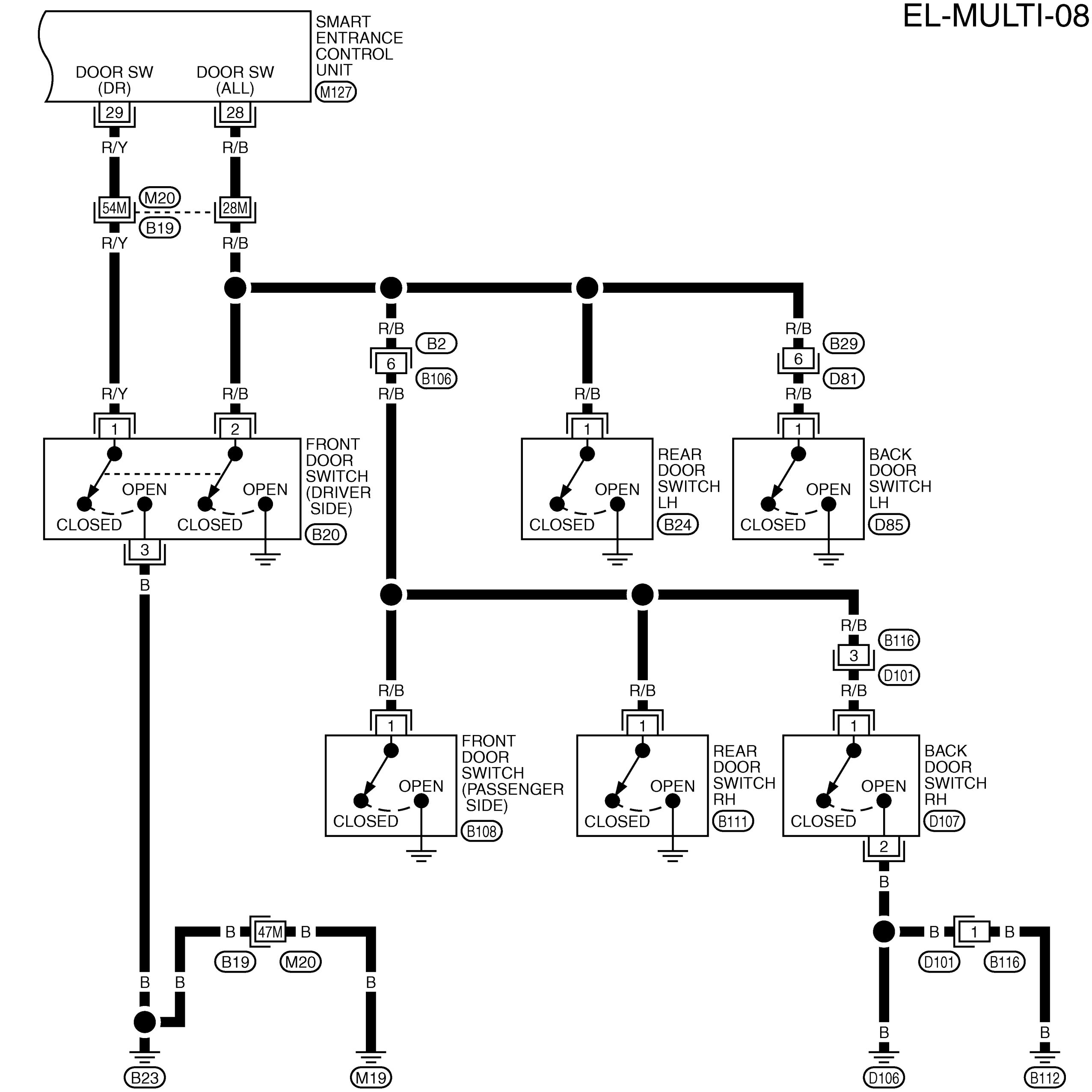


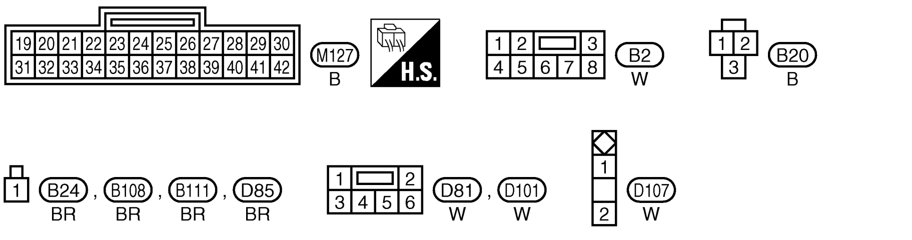


TEL589M

Wiring Diagram — MULTI —/LHD Models with Theft Warning System (Cont’d)

EL-MULTI-08



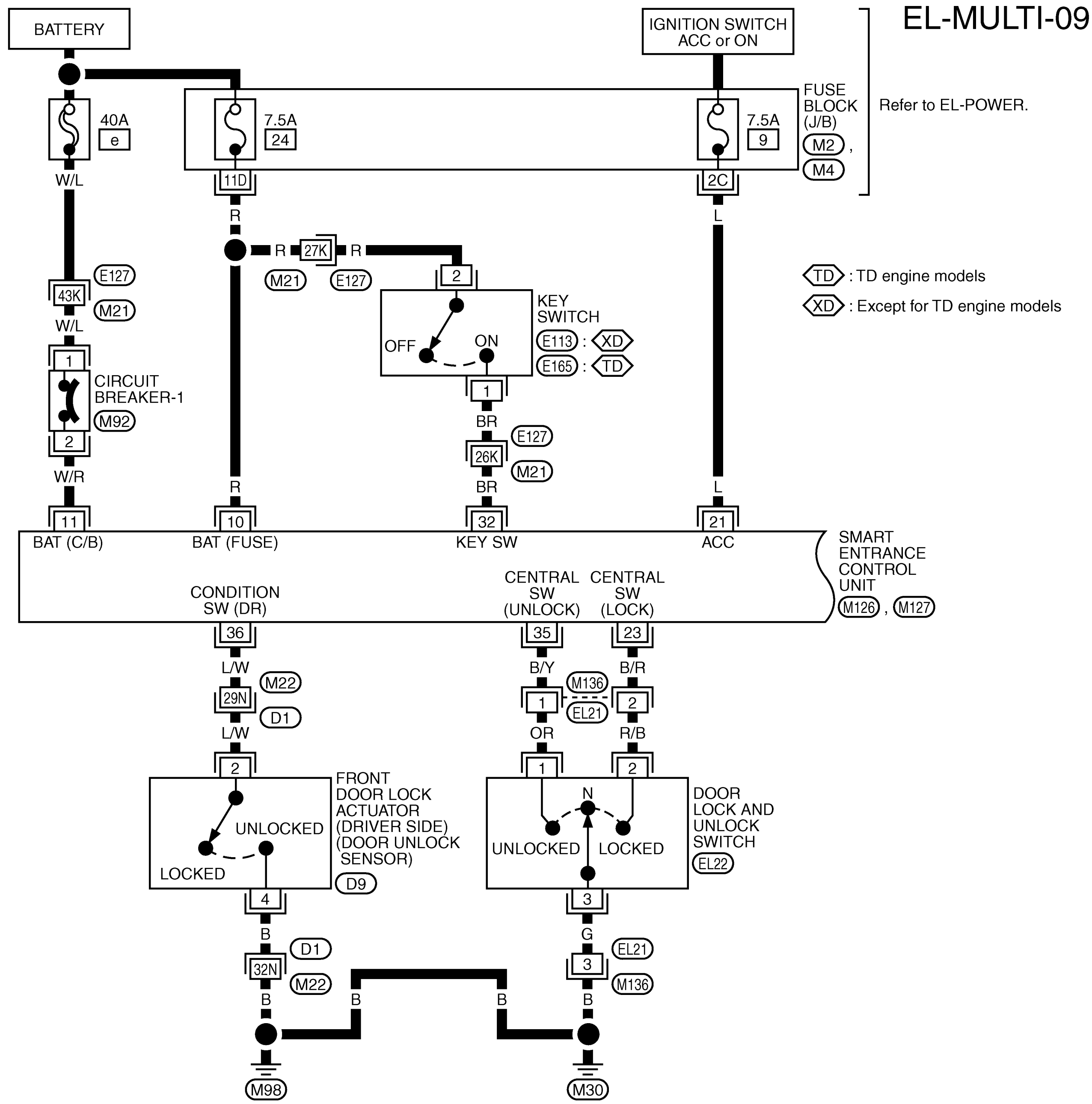


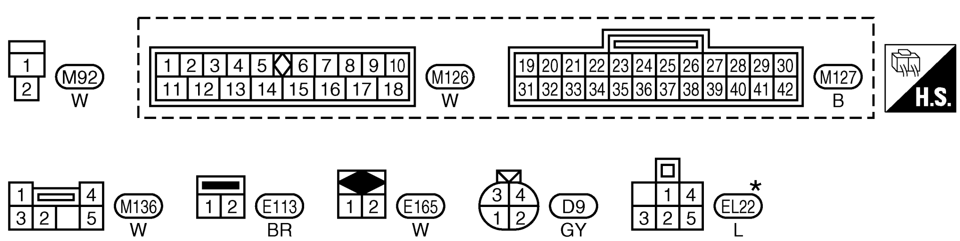
Refer to last page (Foldout page).
M20, B19

TEL590M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Wiring Diagram — MULTI —/RHD Models with Theft Warning System



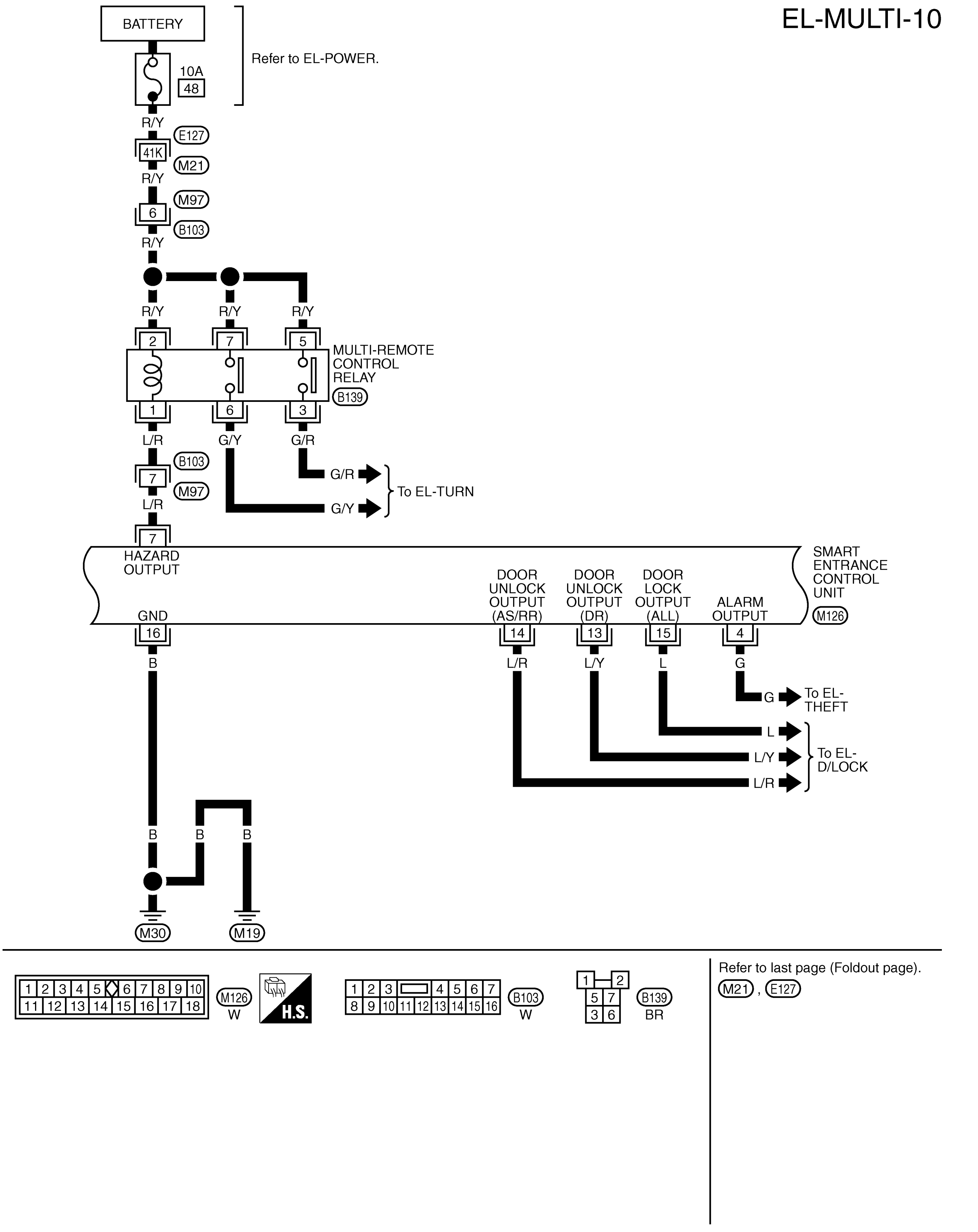


Refer to last page (Foldout page).
M21, E127
M22, D1
M2
M4

*: This connector is not shown in "HARNESS LAYOUT", EL section.

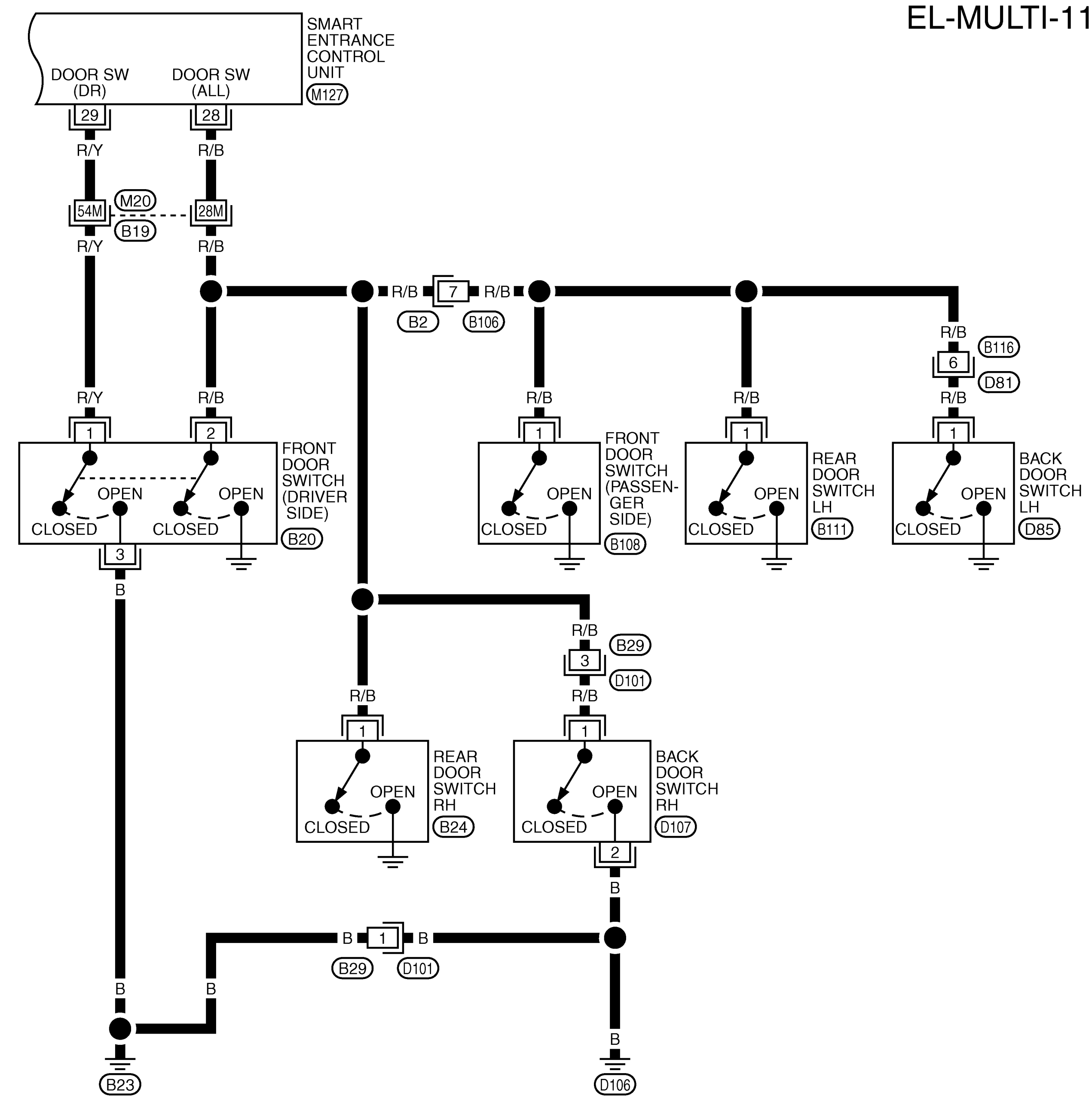
TEL591M

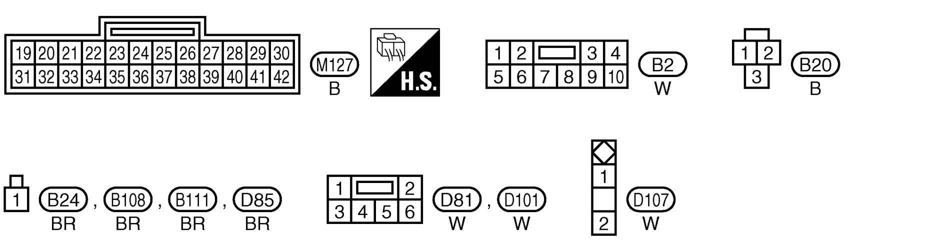
Wiring Diagram — MULTI —/RHD Models with Theft Warning System (Cont'd)



Wiring Diagram — MULTI —/RHD Models with Theft Warning System (Cont'd)

EL-MULTI-11





Refer to last page (Foldout page).
M20, B19

TEL594M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Trouble Diagnoses/With Theft Warning System Models

TROUBLE SYMPTOM

- All functions of remote control system do not operate.

CHECK REMOTE CONTROLLER BATTERY.
Refer to DIAGNOSTIC PROCEDURE 1.
→ NG: Replace battery.
↓ OK

Enter the Identity (ID) code of different or new remote controller.
↓

Can the new ID code be entered?
→ No: Go to DIAGNOSTIC PROCEDURE 2.
↓ Yes

Replace with the originally used multi-remote controller.

- Some functions of multi-remote controller do not operate.

① DOOR LOCK OR UNLOCK DOES NOT FUNCTION.
(Pressing lock or unlock button of remote controller normally locks or unlocks all doors.)
- Check if power door lock system functions with door lock & unlock switch.

→ No: Check "POWER DOOR LOCK" system.

OR

② HAZARD INDICATOR DOES NOT FLASH PROPERLY WHEN PRESSING LOCK OR UNLOCK BUTTON OF REMOTE CONTROLLER.
- Check if hazard indicator flashes with hazard switch.
If check is OK, Go to DIAGNOSTIC PROCEDURE 3.

→ No: Check "Hazard indicator lamp" circuit.

OR

③ FRONT INTERIOR ROOM LAMP DOES NOT TURN ON FOR 30 SECONDS WHEN PRESSING UNLOCK BUTTON OF REMOTE CONTROLLER.
- Check if the front interior room lamp switch is in the "door" position, the lamp illuminates when a door is open.
If check is OK, Go to DIAGNOSTIC PROCEDURE 4.

→ No: Check "Front interior room lamp" circuit.

OR

④ PANIC ALARM (HORN AND HEADLAMP) DOES NOT ACTIVATE WHEN PANIC ALARM BUTTON IS CONTINUOUSLY PRESSED FOR MORE THAN 1.5 SECONDS. (With theft warning system)
- Check if horn and headlamps activate when test is conducted as follows:
  1. Open the driver's window.
  2. Close all doors.
  3. Lock doors with the key.
  4. Wait for about 30 seconds to make sure that the lighted "SECURITY" warning lamp begins to blink.
  5. Manually unlock with driver's door lock knob, then panic alarm should activate. (The alarm will stop when door is locked and unlocked with the key.)

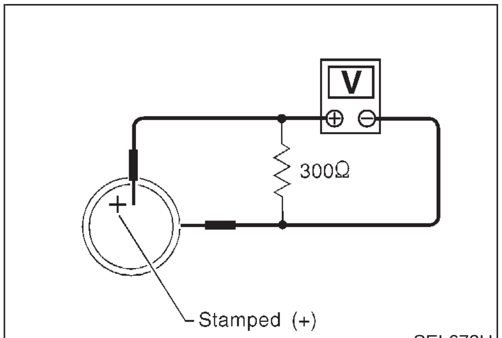
→ No: Check "THEFT WARNING" system.
↓ Yes

Enter the identity (ID) code of different or new remote controller and recheck operation to see if the same trouble as indicated above occurs.
→ Yes: Check multi-remote controller operation again. If necessary, replace Smart Entrance Control Unit.
↓ No

Replace the multi-remote controller.

NOTE:
- **Always check remote controller battery before replacing remote controller.**

Trouble Diagnoses/With Theft Warning System Models (Cont'd)



SEL672U

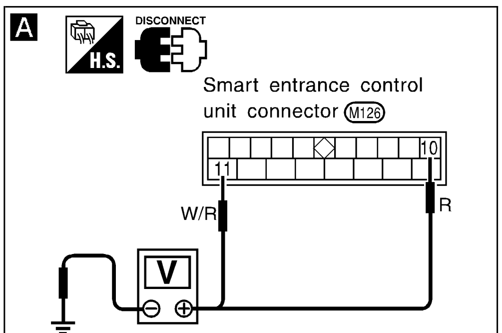
DIAGNOSTIC PROCEDURE 1

Check remote controller battery.

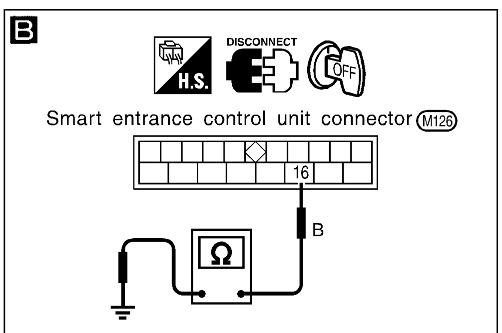
CHECK REMOTE CONTROLLER BATTERY.
Remove battery and measure voltage between battery positive and negative terminals ⊕ and ⊖.

Measuring terminal		Standard value
⊕	⊖	
Battery positive terminal ⊕	Battery negative terminal ⊖	2.5 - 3.0V

Note:
Remote controller does not function if battery is not set correctly.



SEL883W



SEL013WA

DIAGNOSTIC PROCEDURE 2

All remote controls do not function even if remote controller is operated properly.

A

CHECK MAIN POWER SUPPLY AND GROUND CIRCUIT.
1) Remove key from ignition.
2) Disconnect connector from smart entrance control unit. Check voltage between smart entrance control unit terminal ⑩ or ⑪ and GND.
Battery voltage should exist.

Refer to EL-MULTI-05 or 09.

NG → Check the following.
- 40A fusible link (Letter e, located in fuse and fusible link box)
- 7.5A fuse [No. 24, located in fuse block (J/B)]
- (M92) circuit breaker
- Harness for open or short between smart entrance control unit and circuit breaker
- Harness for open or short between circuit breaker and fusible link

OK ↓

B

Check continuity between terminal ⑯ and GND.
Continuity should exist.

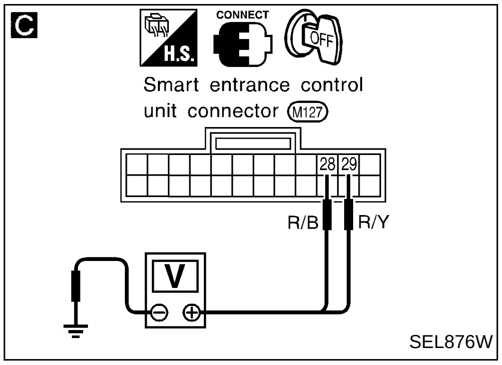
Refer to EL-MULTI-05 or 09.

NG → Check GND harness.

OK ↓

Ⓐ
(Go to next page.)

Trouble Diagnoses/With Theft Warning System Models (Cont'd)



Ⓐ

C

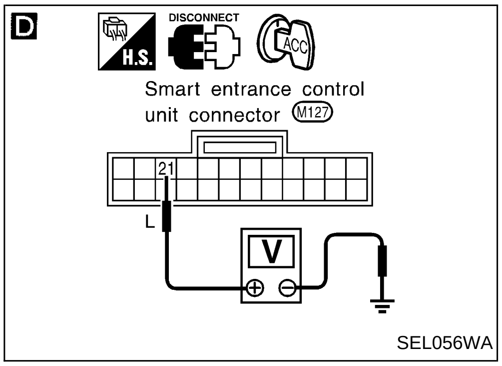
CHECK DOOR SWITCH CIRCUIT.
Check continuity between smart entrance control unit terminal ㉙ and GND, ㉘ and GND.

	Terminals		Condition	Voltage [V]
	⊕	⊖		
Front door switch LH	㉙	GND	Open	0
			Close	Approx. 5
Other door switches	㉘	GND	Open	0
			Close	Approx. 5

Refer to EL-MULTI-08 or 11.

NG → Check the following.
- Door switch
- Door switch ground circuit (Front LH side and back door RH) or door switch case ground condition (Front RH side, rear and back door LH)
- Harness for open or short

OK ↓



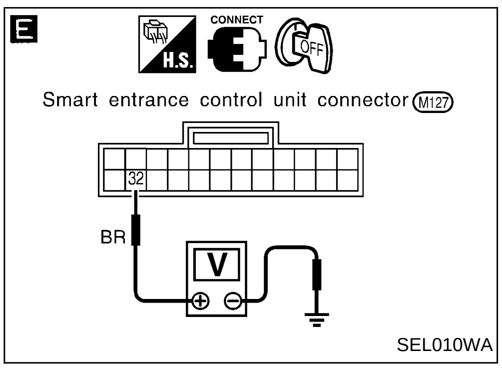
D

CHECK IGNITION SWITCH "ACC" CIRCUIT.
Check voltage between smart entrance control unit terminal ㉑ and GND while ignition switch is "ACC".
Does battery voltage exist?

Refer to EL-MULTI-05 or 09.

No → Check the following.
- 7.5A fuse [No. 9, located in fuse block (J/B)]
- Harness for open or short

Yes ↓



E

KEY SWITCH INPUT SIGNAL CHECK.
Check voltage between smart entrance control unit terminal ㉜ and GND.

Condition	Voltage [V]
Key is inserted	Approx. 12
Key is pulled	0

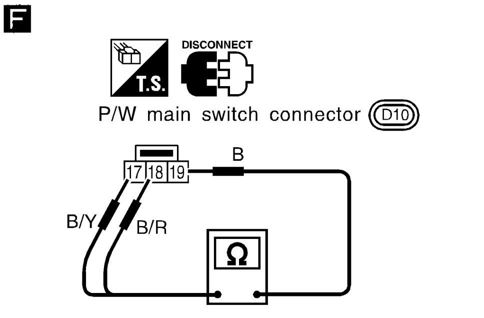
Refer to EL-MULTI-05 or 09.

NG → Check the following.
- 7.5A fuse [No. 24, located in fuse block (J/B)]
- Key switch
- Harness for open or short between smart entrance control unit and key switch
- Harness for open or short between key switch and fuse

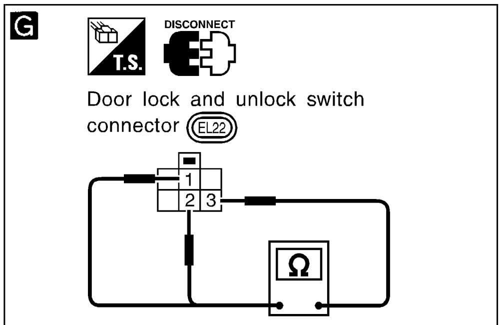
OK ↓

Ⓑ

Trouble Diagnoses/With Theft Warning System Models (Cont'd)



SEL873W



SEL628X

Ⓑ

F G

CHECK DOOR LOCK/UNLOCK SWITCH.
1. Disconnect door lock/unlock switch connector.
2. Check continuity between each door lock/unlock switch terminals.

F Power window main switch [Door lock/unlock switch (with power window)]

Condition	Terminals		
	19	17	18
Unlock	○	○	
N	No continuity		
Lock	○		○

G Door lock and unlock switch (without power window)

Condition	Terminals		
	1	2	3
Lock		○	○
N	No continuity		
Unlock	○		○

NG → Replace door lock/unlock switch.

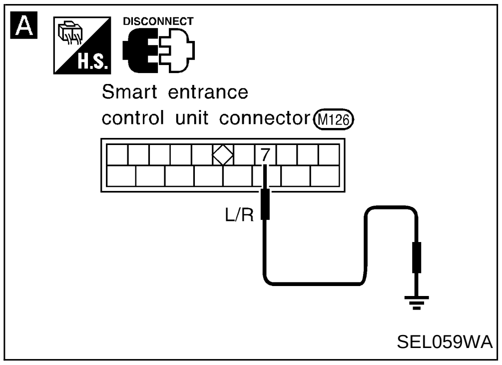
OK ↓

Check operation parts in multi-remote control system for function.

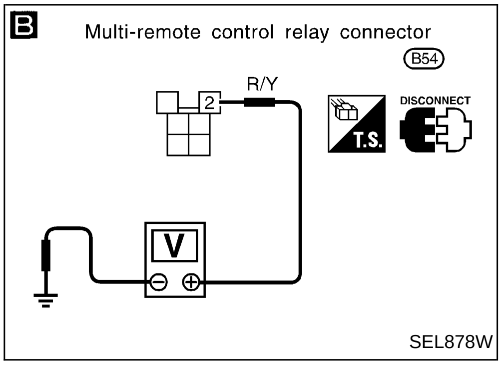
Trouble Diagnoses/With Theft Warning System Models (Cont'd)

DIAGNOSTIC PROCEDURE 3

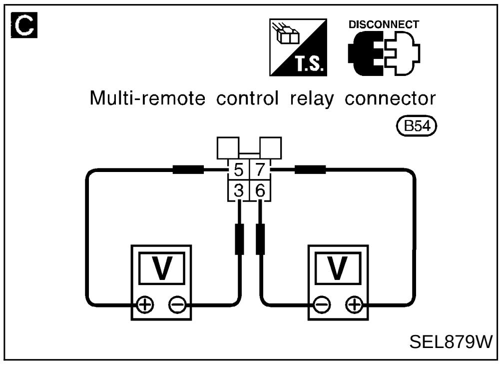
Hazard indicator does not flash properly when pressing lock or unlock button of remote controller. Everything else functions.



SEL059WA



SEL878W



SEL879W

A

CHECK HAZARD INDICATOR OPERATION.
1. Disconnect smart entrance control unit connector.
2. Apply ground to smart entrance control unit terminal ⑦ .
   Does hazard indicator illuminate?

   Refer to EL-MULTI-07 or 10.

→ Yes: Replace smart entrance control unit.

↓ No

Check multi-remote control relay.

→ NG: Replace.

↓ OK

B

CHECK POWER SUPPLY FOR MULTI-REMOTE CONTROL RELAY.
1. Disconnect multi-remote control relay connector.
2. Measure voltage between terminal ② and body ground.
   Battery voltage should exist.

→ NG: Check the following.
- 10A fuse (No. 48 , located in fuse and fusible link box)
- Harness for open or short

↓ OK

C

CHECK MULTI-REMOTE CONTROL RELAY CIRCUIT.
1. Disconnect multi-remote control relay connector.
2. Measure voltage between terminals ③ and ⑤ .
   Battery voltage should exist.
3. Measure voltage between terminals ⑥ and ⑦ .
   Battery voltage should exist.

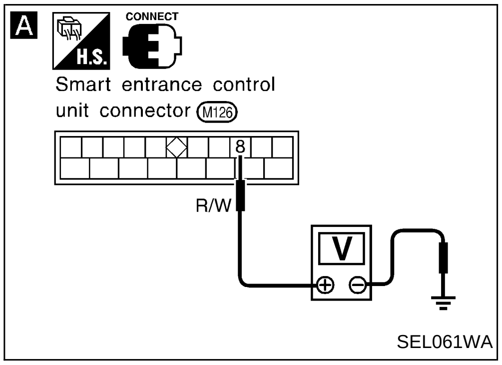
→ NG: Check harness for open or short.

↓ OK

Check harness for open or short between smart entrance control unit and multi-remote control relay.

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Trouble Diagnoses/With Theft Warning System Models (Cont'd)



DIAGNOSTIC PROCEDURE 4

Front interior room lamp does not turn on for 30 seconds when pressing unlock button of remote controller. Everything else functions.

A

CHECK INTERIOR LAMP CIRCUIT.
When front interior room lamp switch is "DOOR" position, check voltage across smart entrance control unit terminal ⑧ and GND.
Does battery voltage exist?

Refer to EL-MULTI-07.

- No → Repair harness between smart entrance control unit connector and front interior room lamp connector.
- Yes ↓

A

When all doors are closed and driver's door is locked, push unlock button of remote controller and check voltage across smart entrance control unit terminal ⑧ and GND.
Is voltage approx. 0V?

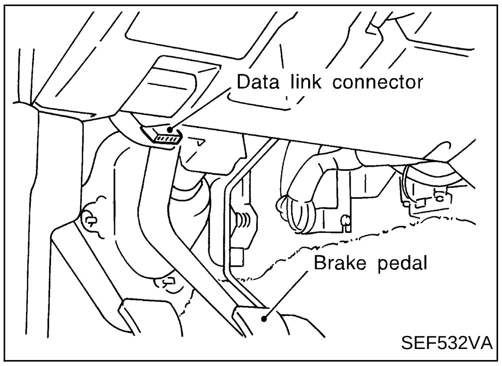
- No → Replace smart entrance control unit.
- Yes ↓

Check system again.

ID Code Entry Procedure/With Theft Warning System Models

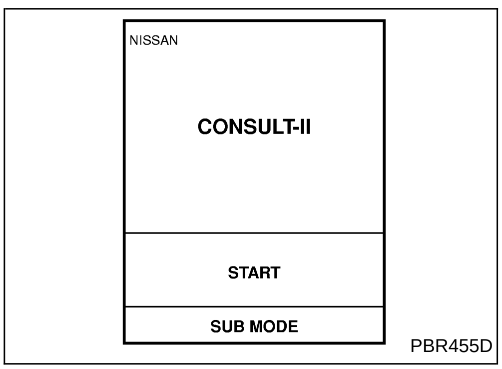
REMOTE CONTROLLER ID SET UP WITH CONSULT-II

NOTE:
If a remote controller is lost, the ID code of the lost remote controller must be erased to prevent unauthorized use. When the ID code of a lost remote controller is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers must be re-registered.



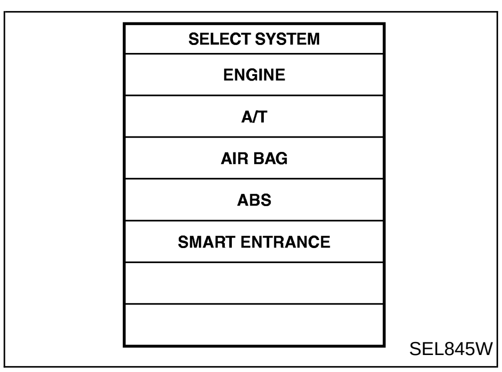
SEF532VA

1. Turn ignition switch “OFF”.
2. Connect CONSULT-II to the data link connector.



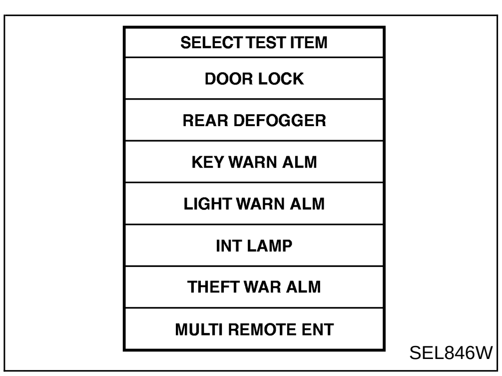
PBR455D

3. Turn ignition switch “ON”.
4. Touch “START”.



SEL845W

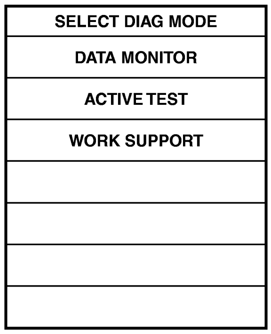
5. Touch “SMART ENTRANCE”.



SEL846W

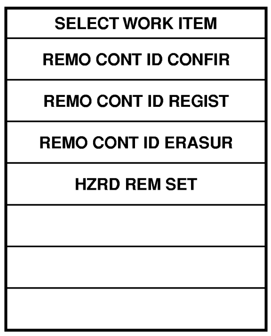
6. Touch “MULTI REMOTE ENT”.

ID Code Entry Procedure/With Theft Warning System Models (Cont'd)



SEL274W

7. Touch "WORK SUPPORT".



SEL277W

8. The items are shown on the figure at left can be set up.

- "REMO CONT ID CONFIR"
  Use this mode to confirm if a remote controller ID code is registered or not.
- "REMO CONT ID REGIST"
  Use this mode to register a remote controller ID code.

NOTE:
Register the ID code when remote controller or smart entrance control unit is replaced, or when additional remote controller is required.

- "REMO CONT ID ERASUR"
  Use this mode to erase a remote controller ID code.
- "HZRD REM SET"
  Use this mode to activate or deactivate the hazard reminder.

ID Code Entry Procedure/With Theft Warning System Models (Cont'd)

REMOTE CONTROLLER ID SETUP WITHOUT CONSULT-II

Close all doors.

↓

Insert key into and remove it from the ignition key cylinder more than six times within 10 seconds. (The hazard warning lamp will then flash twice.)
NOTE
- **Withdraw key completely from ignition key cylinder each time.**
- **If procedure is performed too fast, system will not enter registration mode.**

↓

Insert key into ignition key cylinder and turn ignition key switch to "ACC" position.

↓

Push any button on remote controller once. (The hazard warning lamp will then flash twice.)
At this time, the oldest ID code is erased (pushed out). Then, the new ID code is entered.

↓

Do you want to enter any additional remote controller ID codes?
A maximum four ID codes can be entered. If more than four ID codes are entered, the oldest ID code will be erased.

No → Ⓐ

Yes ↓

ADDITIONAL ID CODE ENTRY
Lock the door with driver's lock/unlock switch (power window main switch).

↓

Push any button on the new remote controller once.
(The hazard warning lamp will then flash twice.)
At this time, the oldest ID code is erased (pushed out). Then, the new ID code is entered.

↓

Do you want to enter an additional remote controller ID code?
A maximum four ID codes can be entered. If more than four ID codes are entered, the oldest ID code will be erased.

No → Ⓐ

Yes ↓

ADDITIONAL ID CODE ENTRY
Unlock the door, then lock again with driver's lock/unlock switch (power window main switch).

→ (return to "Push any button on the new remote controller once.")

Ⓐ
(Go to next page.)

ID Code Entry Procedure/With Theft Warning System Models (Cont'd)

Ⓐ

↓

Open driver side door.

↓

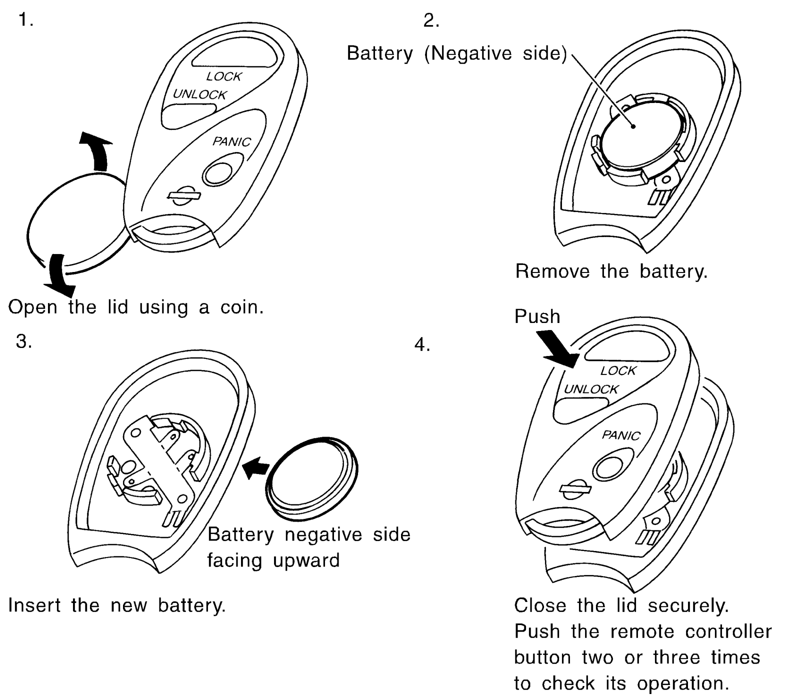
END.
After entering the identity (ID) code, check the operation of multi-remote control system.

NOTE

- If a remote controller is lost, the ID code of the lost remote controller must be erased to prevent unauthorized use. When the ID code of a lost remote controller is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers must be re-registered.
  To erase all ID codes in memory, register one ID code (remote controller) four times. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers must be re-registered.
- When registering an additional remote controller, the existing ID codes in memory may or may not be erased. If four ID codes are stored in memory, when an additional code is registered, only the oldest code is erased. If less than four ID codes are stored in memory, when an additional ID code is registered, the new ID code is added and no ID codes are erased.
- If you need to activate more than two additional new remote controllers, repeat the procedure "Additional ID code entry" for each new remote controller.
- Entry of maximum four ID codes is allowed. When more than four ID codes are entered, the oldest ID code will be erased.
- Even if same ID code that is already in the memory is input, the same ID code can be entered. The code is counted as an additional code.

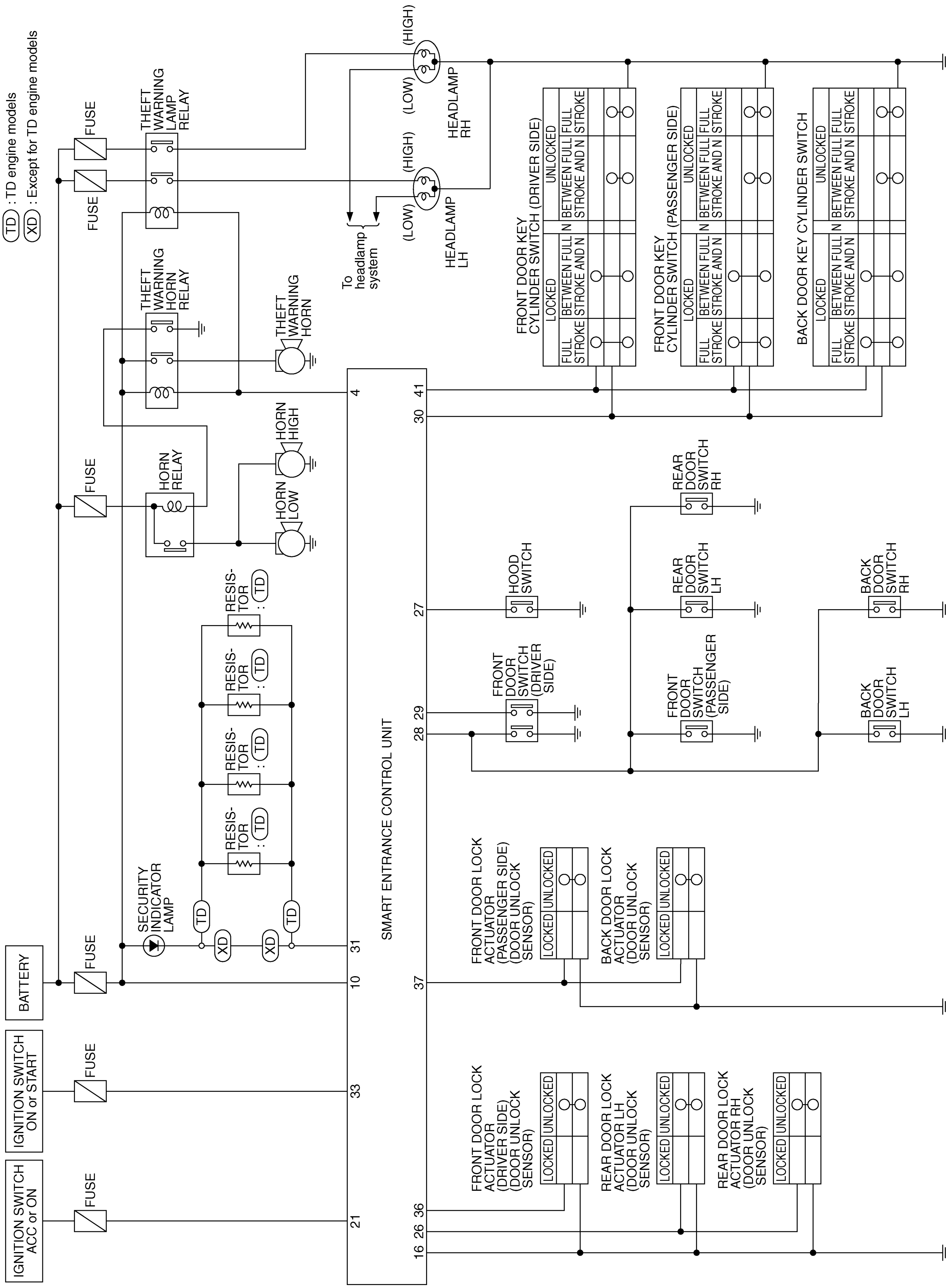
Remote Controller Battery Replacement/With Theft Warning System Models

NOTE:
- **Be careful not to touch the circuit board on the battery terminal.**
- **The remote controller is water-resistant. However, if it does get wet, immediately wipe it dry.**



NOTE

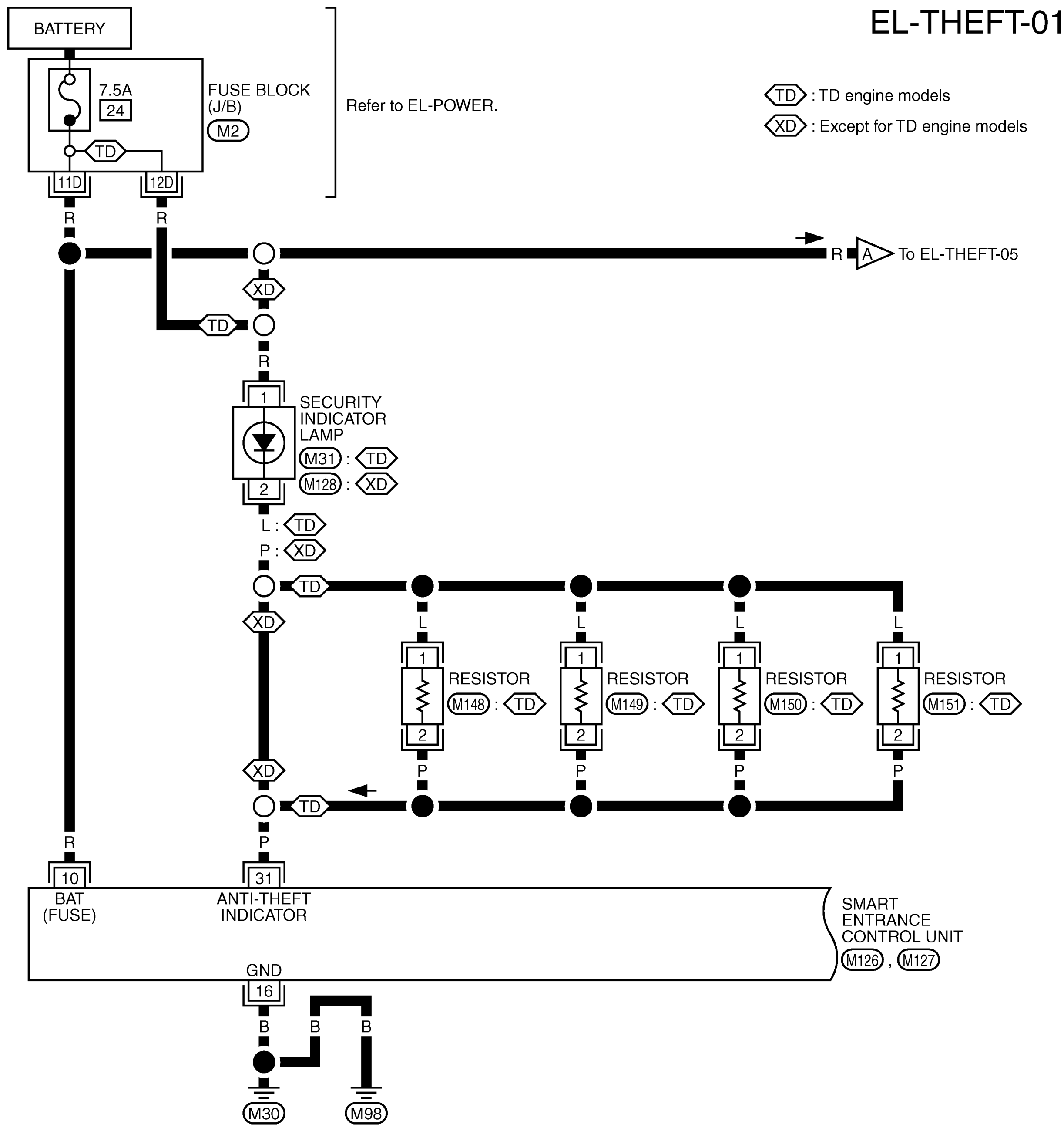
Schematic

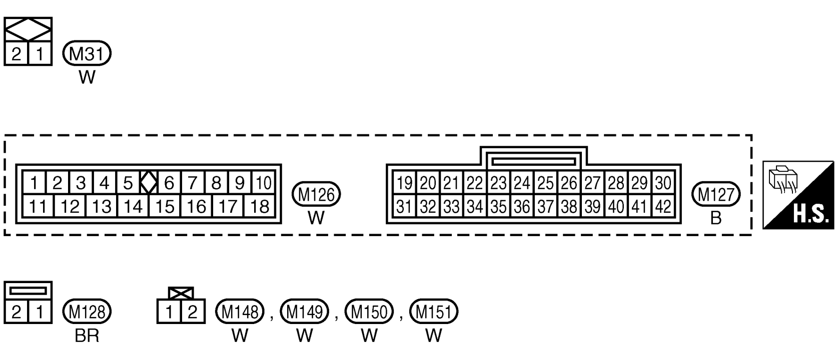


TEL595M

Wiring Diagram — THEFT —/LHD Models

EL-THEFT-01

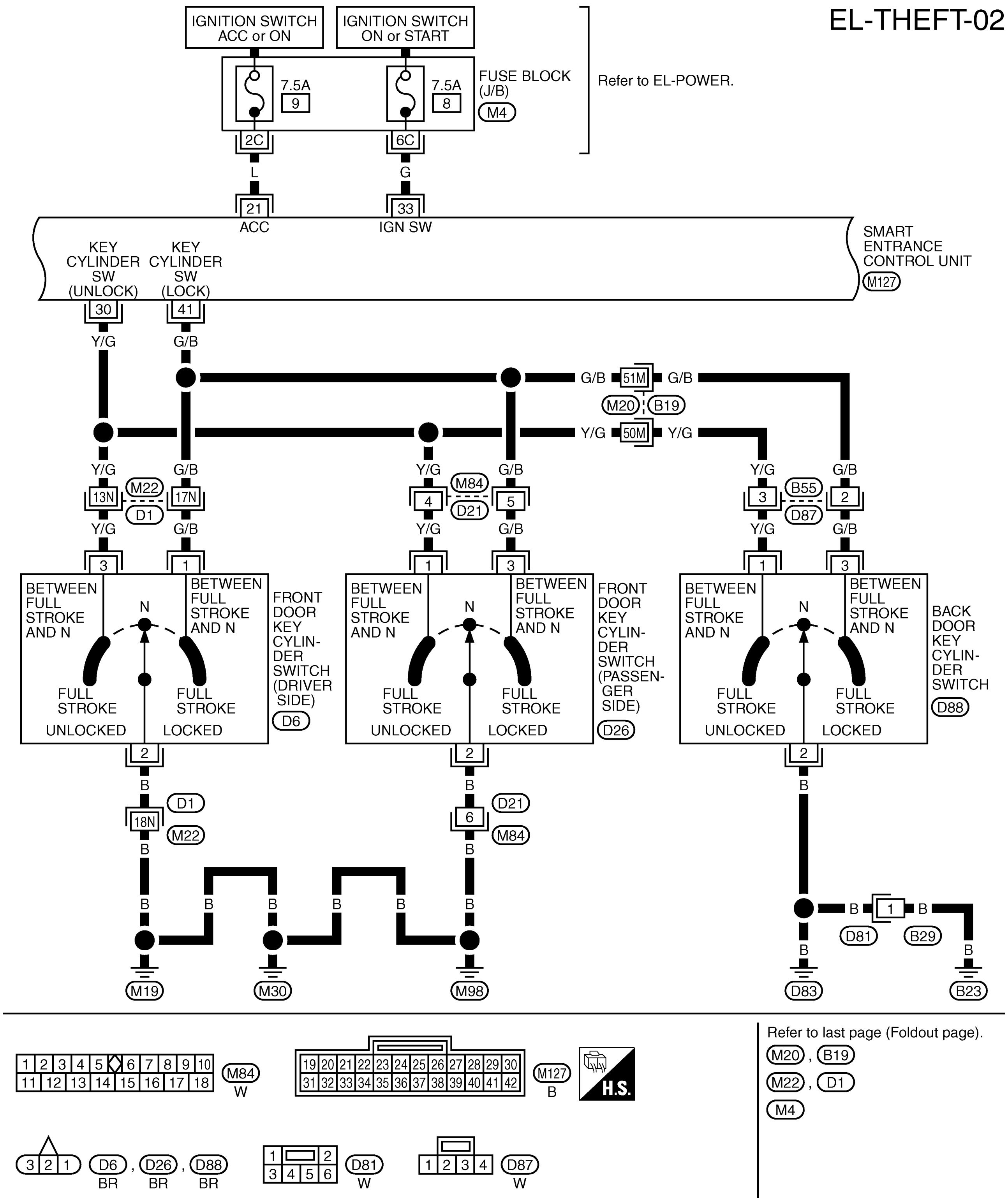




Refer to last page (Foldout page).
M2

TEL596M

Wiring Diagram — THEFT —/LHD Models (Cont'd)

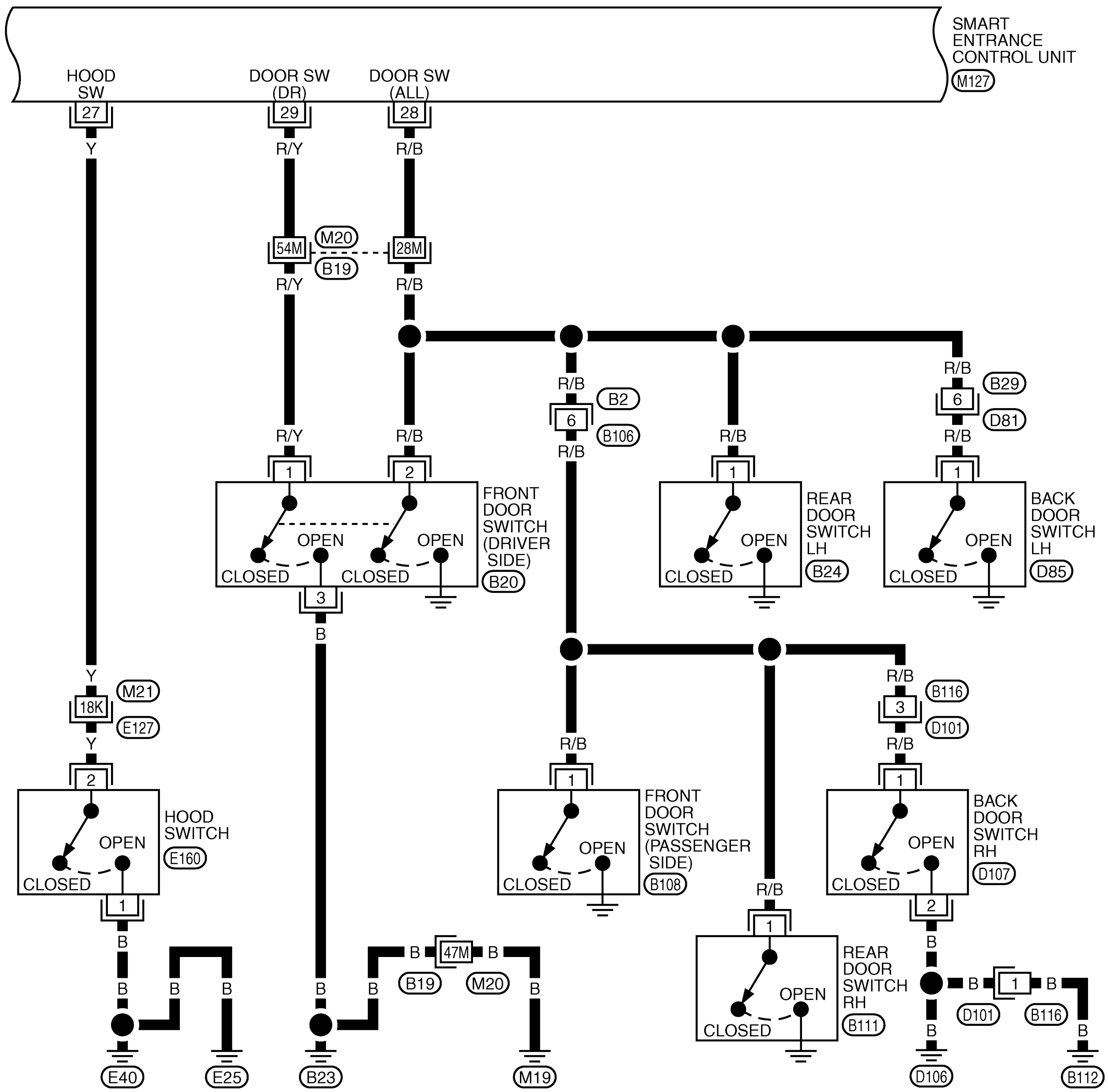


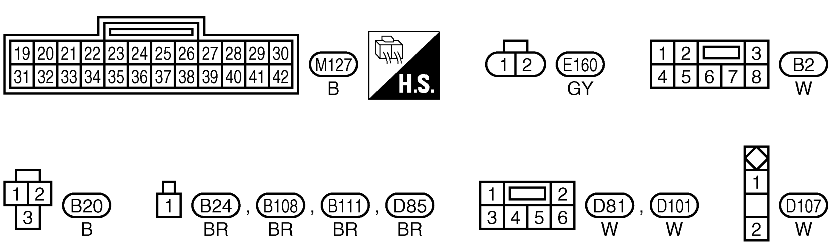
Refer to last page (Foldout page).
M20, B19
M22, D1
M4

TEL597M

Wiring Diagram — THEFT —/LHD Models (Cont'd)

EL-THEFT-03





Refer to last page (Foldout page).

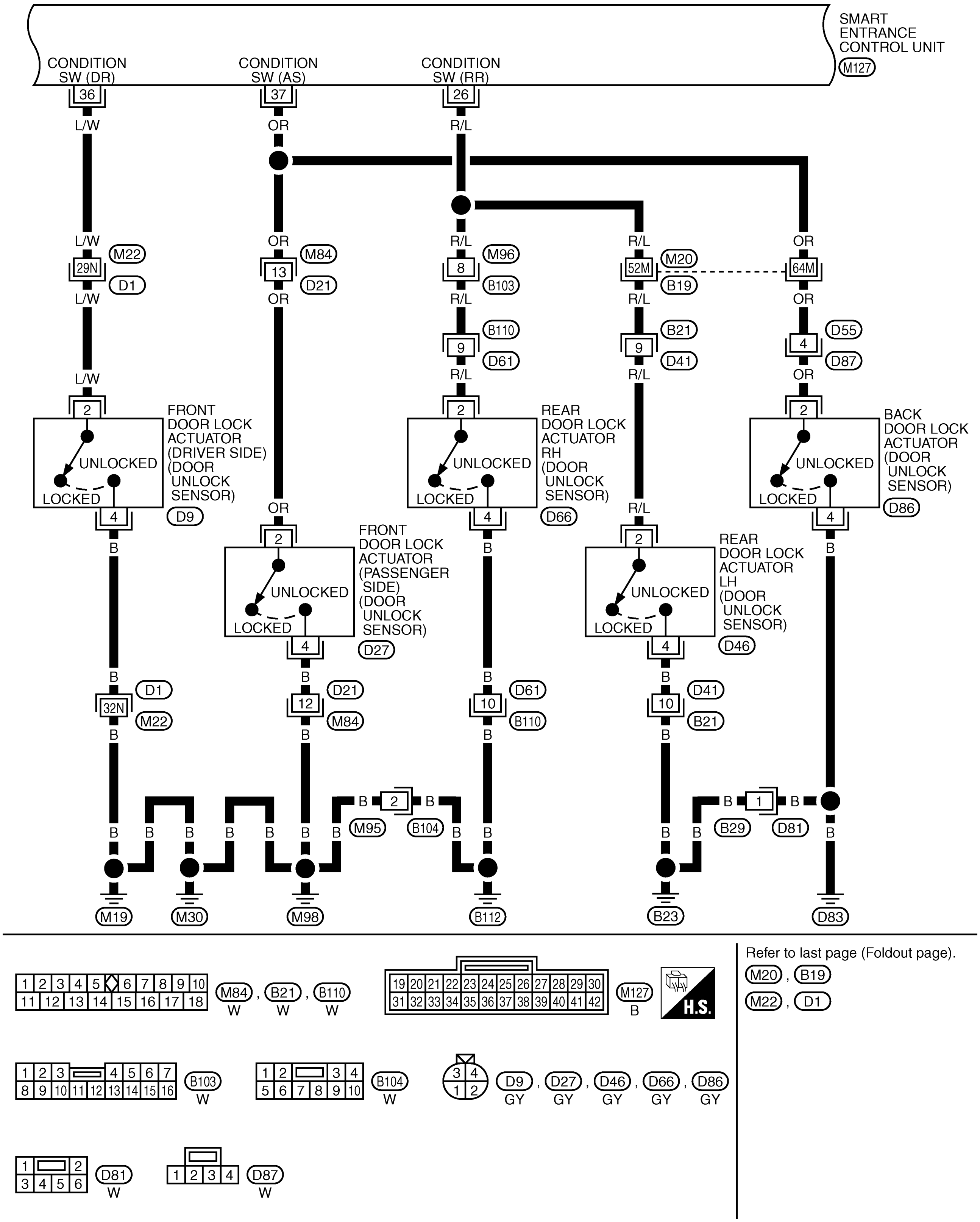
M20, B19

M21, E127

TEL598M

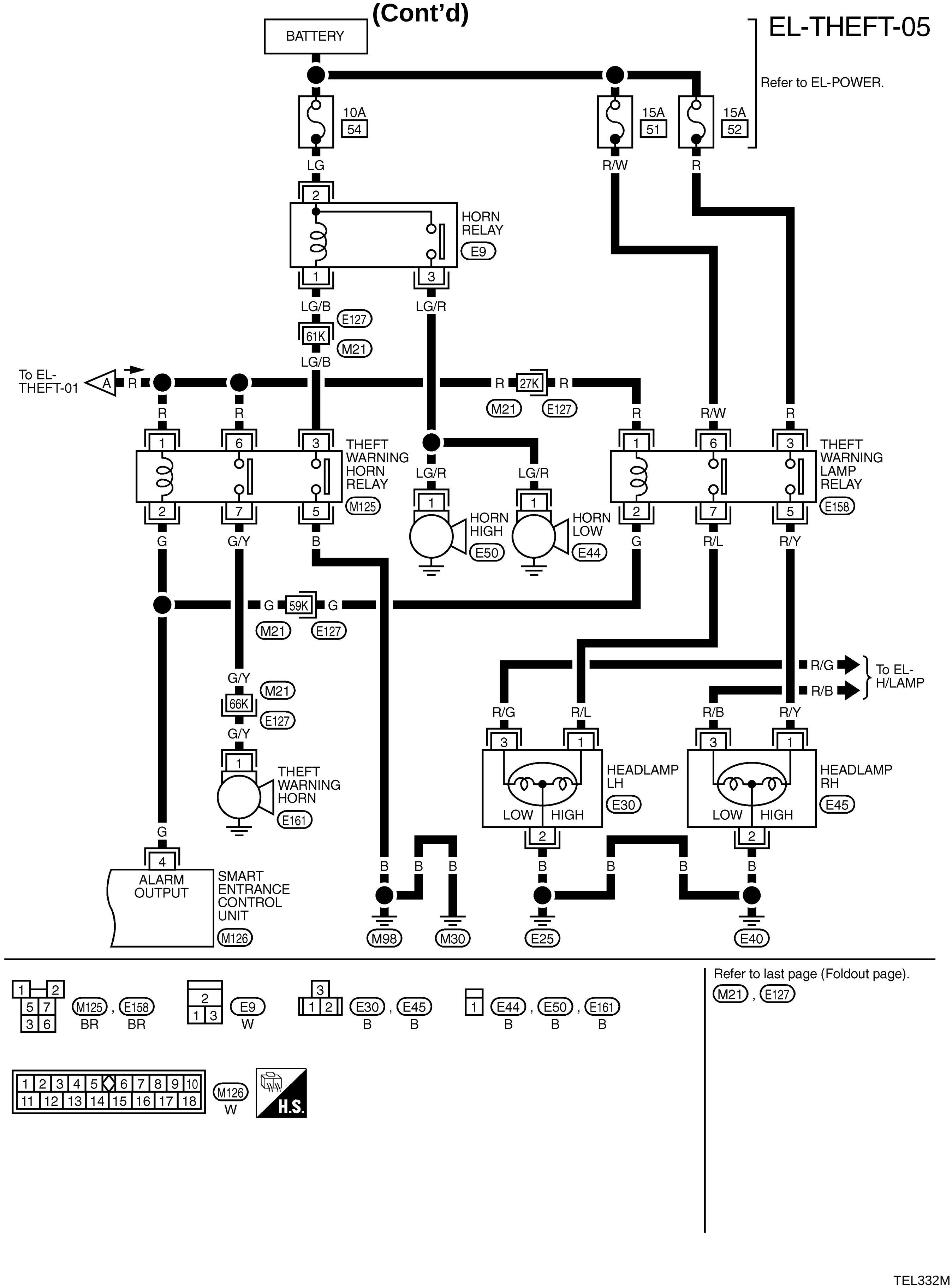
Wiring Diagram — THEFT —/LHD Models (Cont'd)

EL-THEFT-04

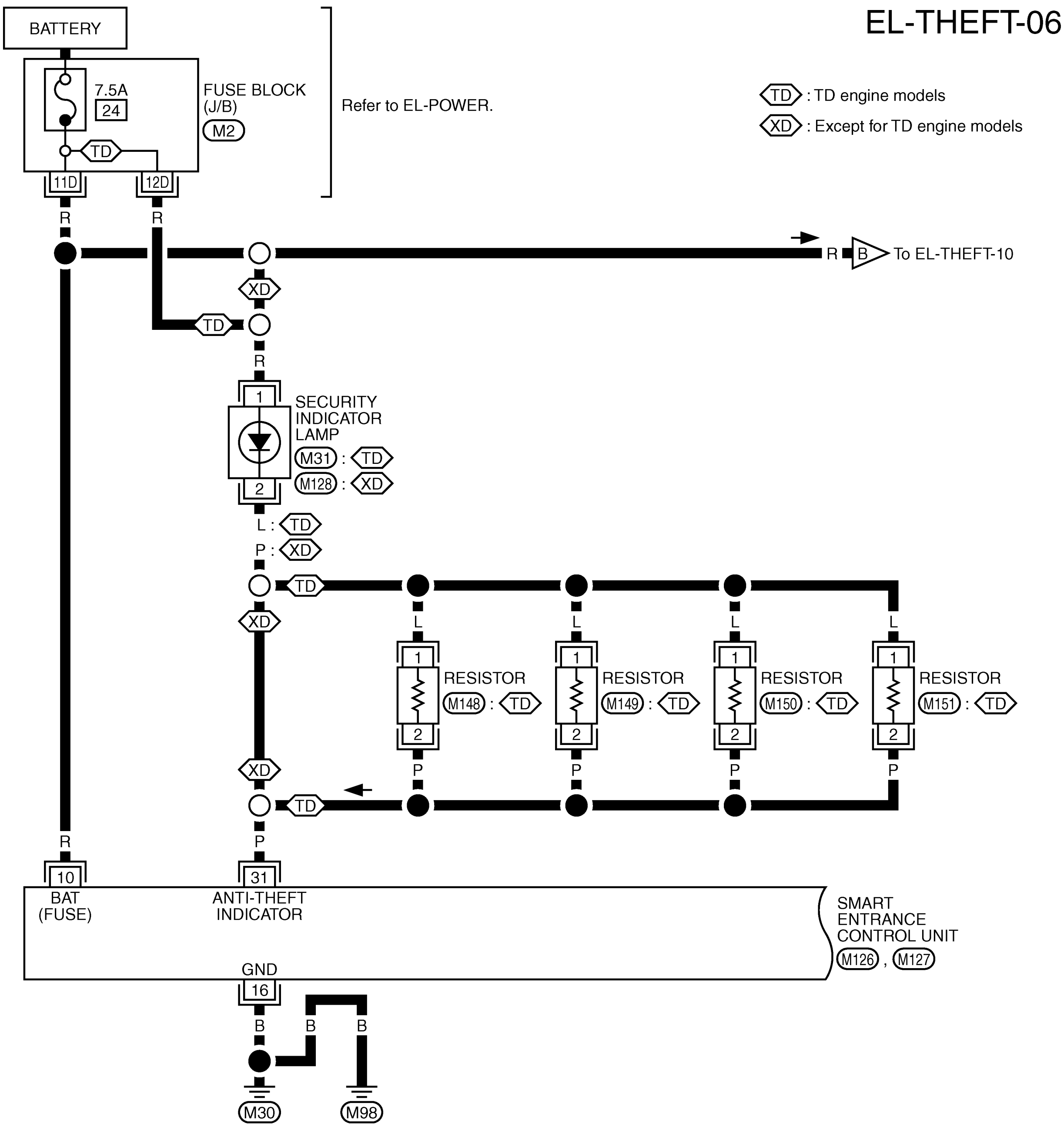


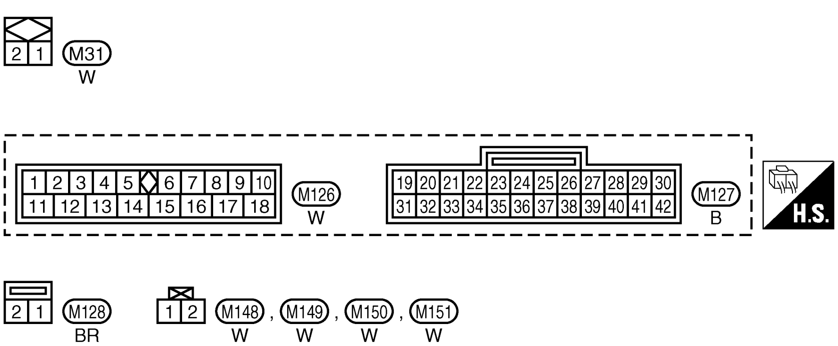
TEL599M

Wiring Diagram — THEFT —/LHD Models (Cont'd)



Wiring Diagram — THEFT —/RHD Models



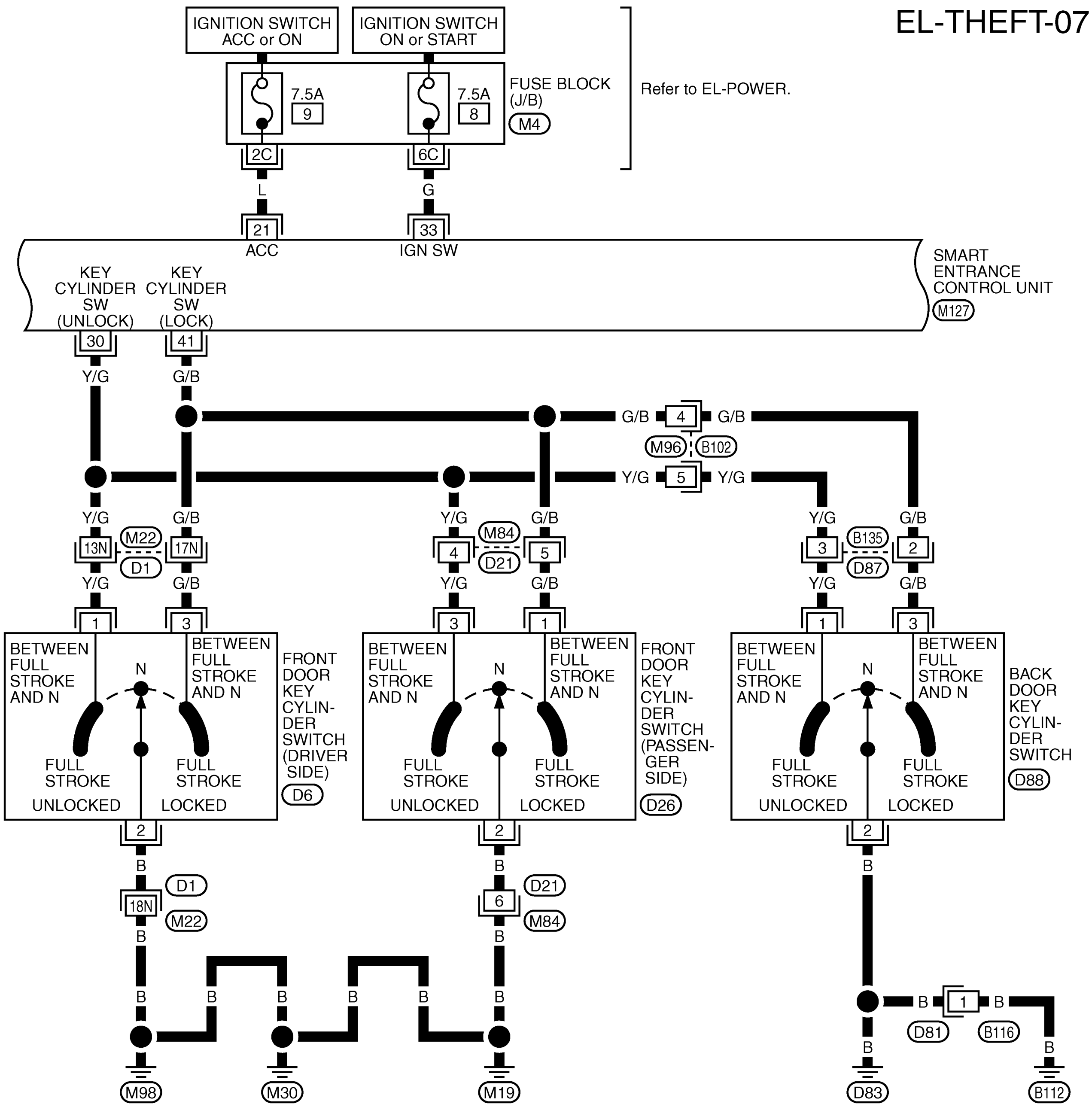


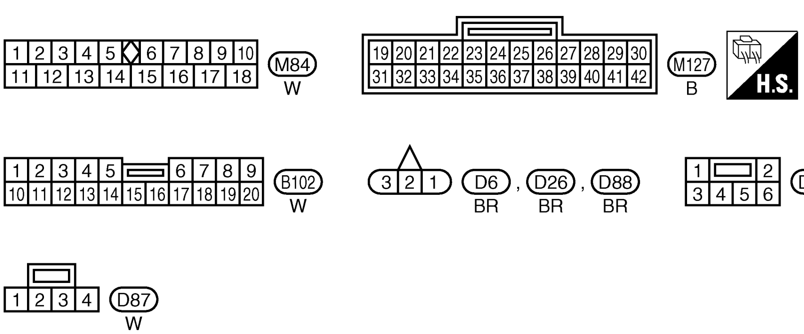
Refer to last page (Foldout page).
M2

TEL600M

Wiring Diagram — THEFT —/RHD Models (Cont'd)

EL-THEFT-07





Refer to last page (Foldout page).

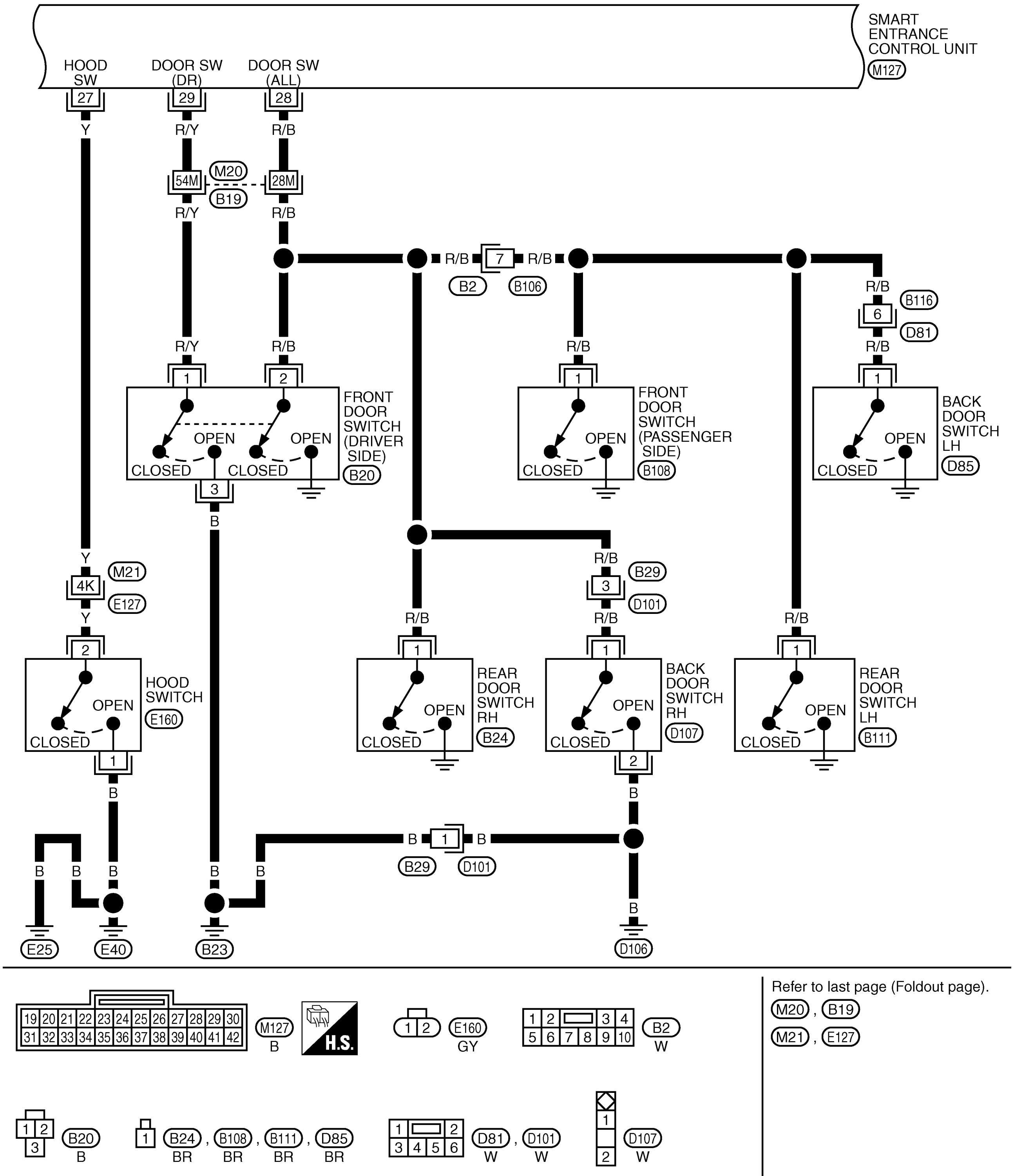
M22, D1

M4

TEL601M

Wiring Diagram — THEFT —/RHD Models (Cont'd)

EL-THEFT-08



Refer to last page (Foldout page).

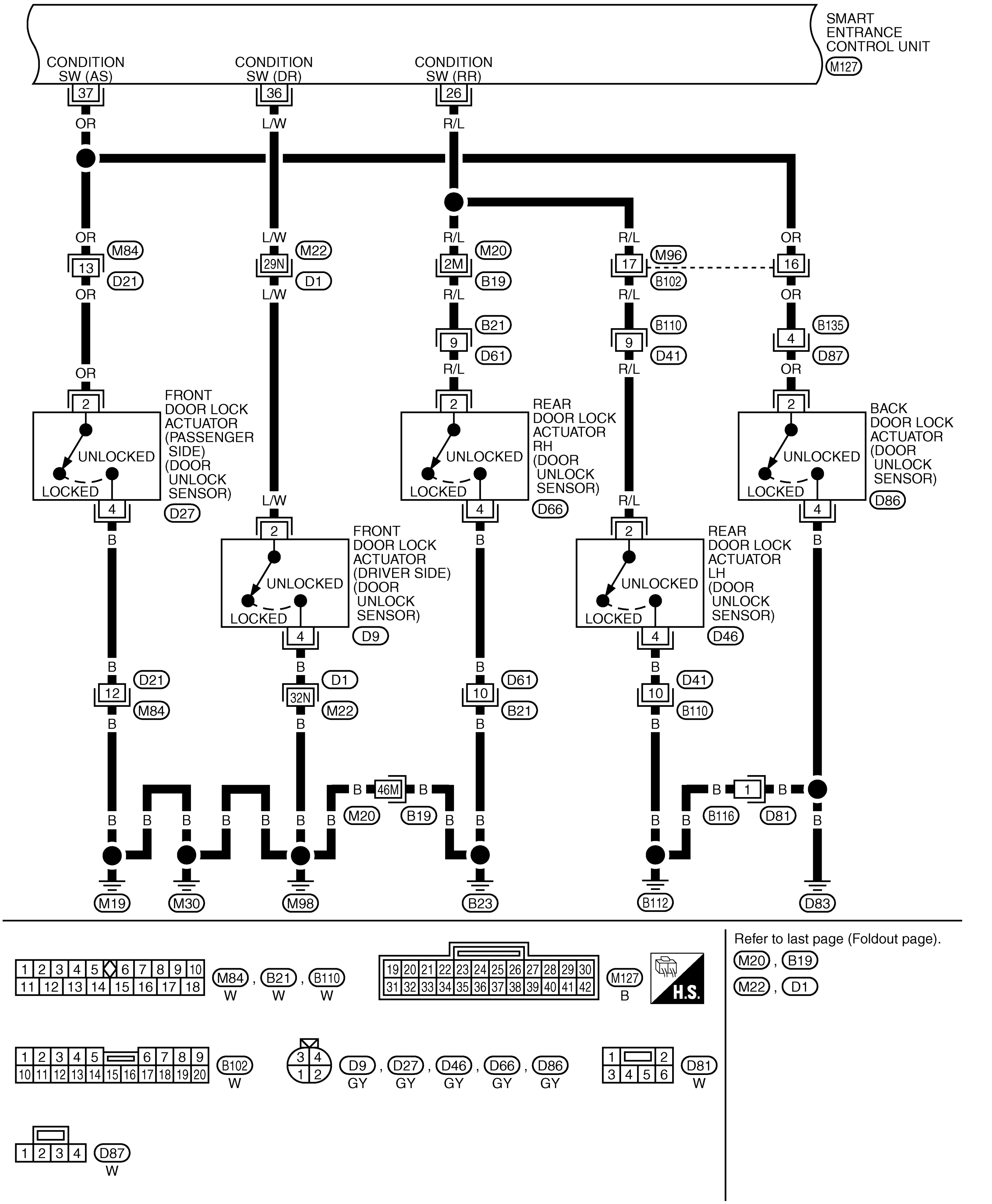
M20, B19

M21, E127

TEL602M

Wiring Diagram — THEFT —/RHD Models (Cont'd)

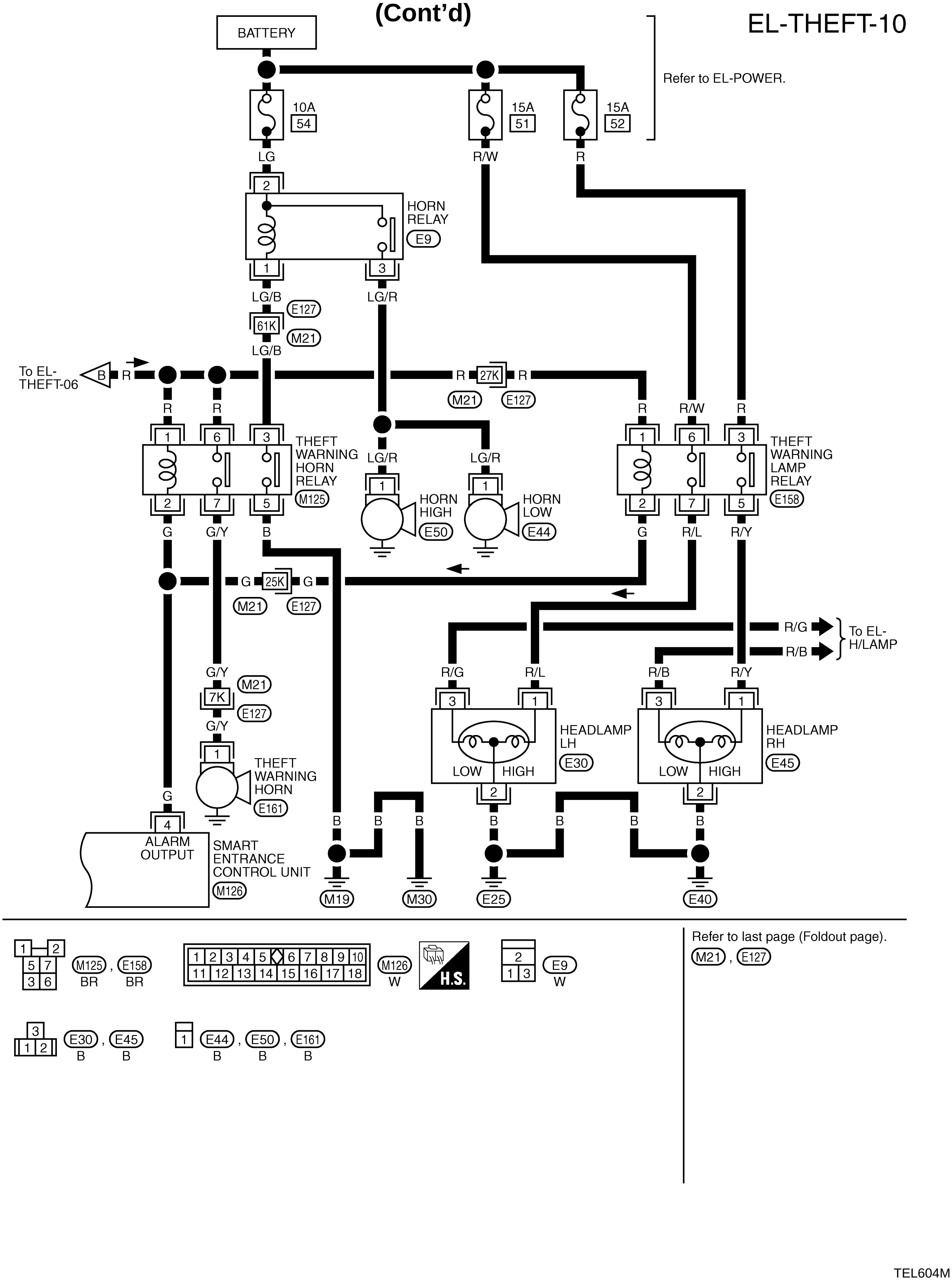
EL-THEFT-09



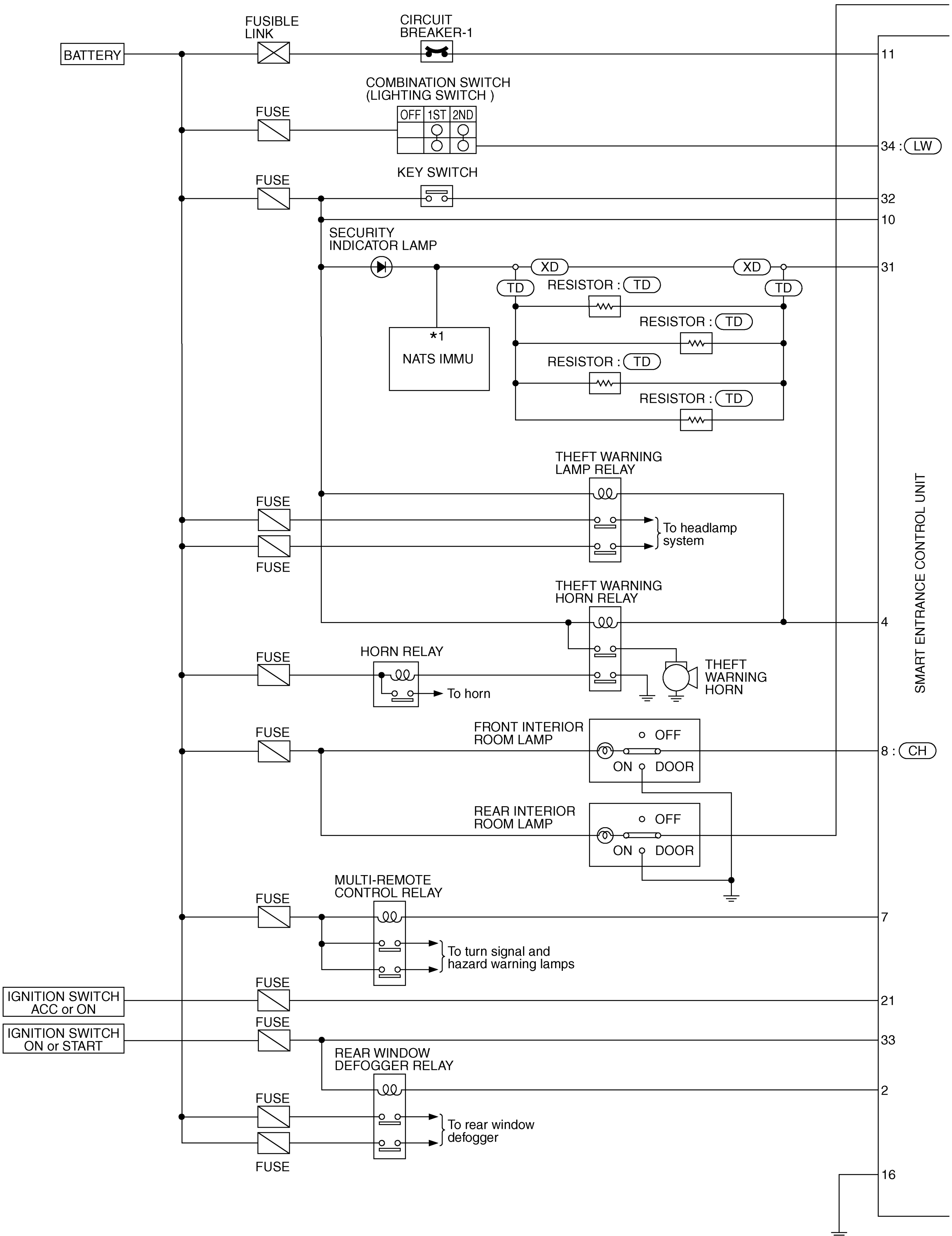
Refer to last page (Foldout page).
M20, B19
M22, D1

TEL603M

Wiring Diagram — THEFT —/RHD Models (Cont'd)

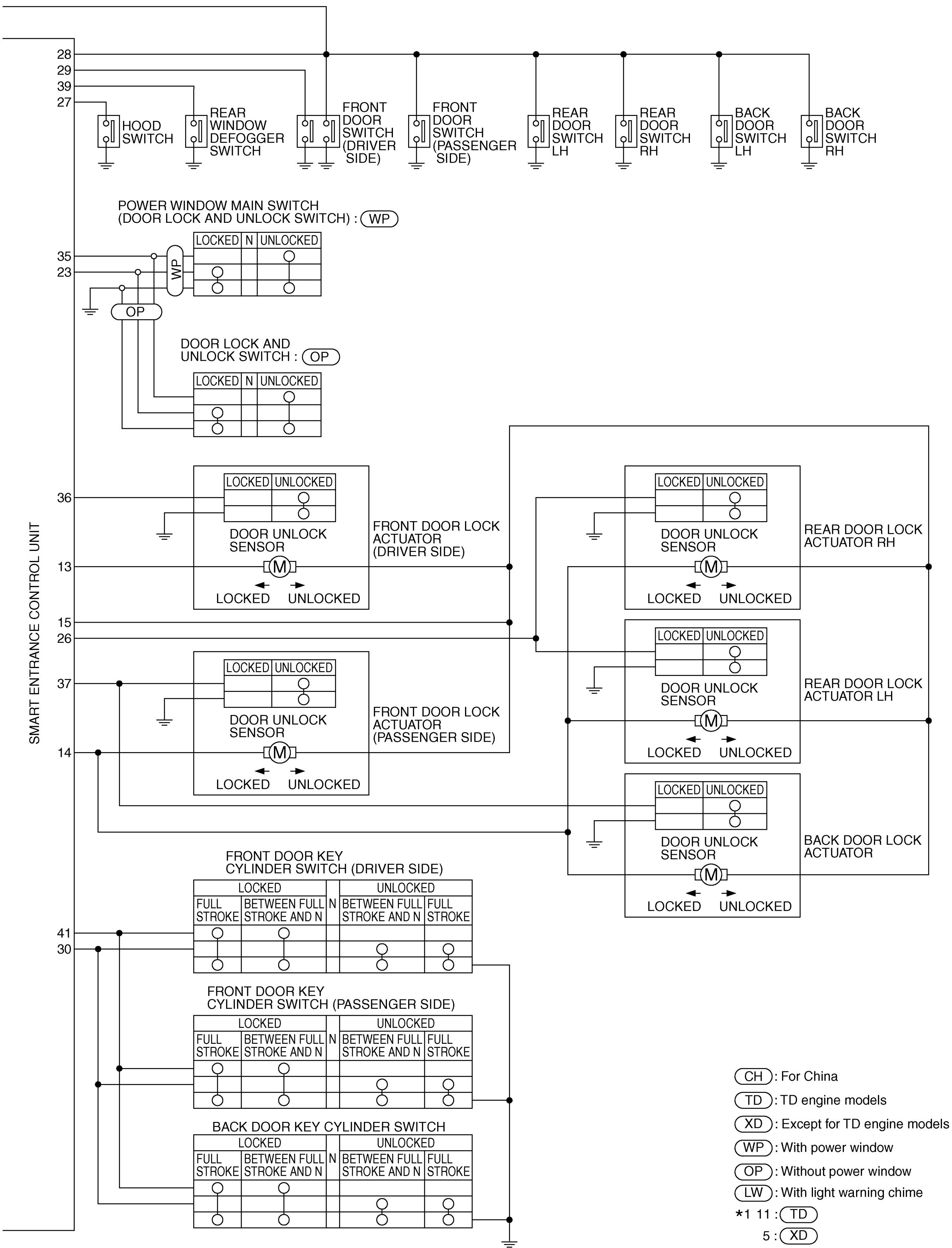


Schematic/With Theft Warning System Models



TEL605M

Schematic/With Theft Warning System Models (Cont'd)



TEL606M

Description/Except for Europe, South Africa and With Theft Warning System Models

Outline/Except for Europe

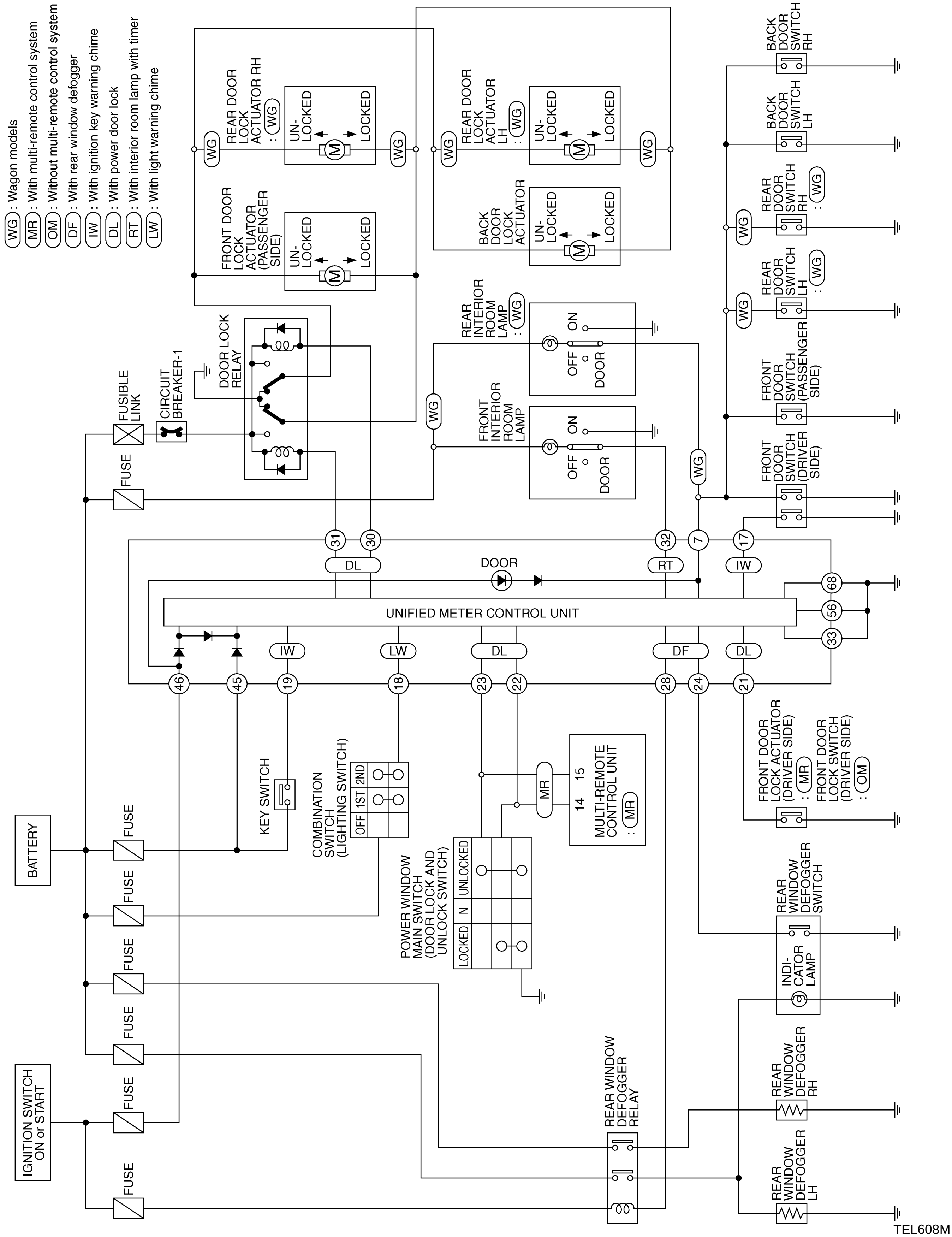
Unified meter control unit (time control system) totally controls the following body electrical system operations.

- Warning buzzer
- Rear window defogger
- Power door lock
- Interior room lamp

INPUT/OUTPUT

System	Input	Output
Power door lock	Door lock/unlock switch Door unlock sensor	Door lock actuator
Warning buzzer	Key switch (Insert) Ignition switch (ON) Lighting switch (1st or 2nd) Door switch driver side	Warning buzzer (located in combination meter)
Rear window defogger	Ignition switch (ON) Rear window defogger switch	Rear window defogger relay
Interior room lamp	Door switches Door unlock sensor Ignition switch (ON) Key switch (Insert)	Interior room lamp

Schematic/Except for Europe, South Africa and With Theft Warning System Models



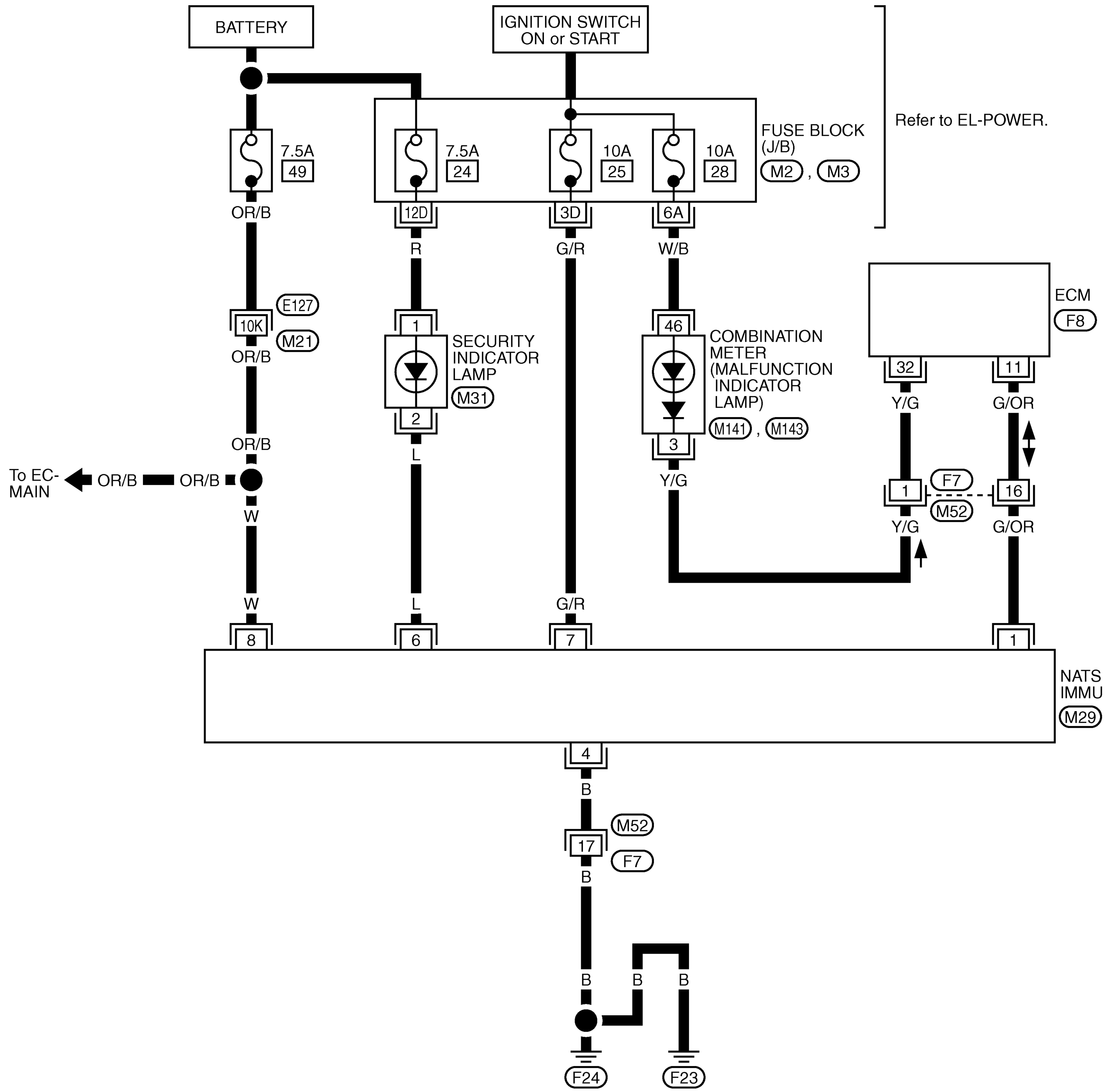
Time Control System Inspection Table/Except for Europe, South Africa and With Theft Warning System Models

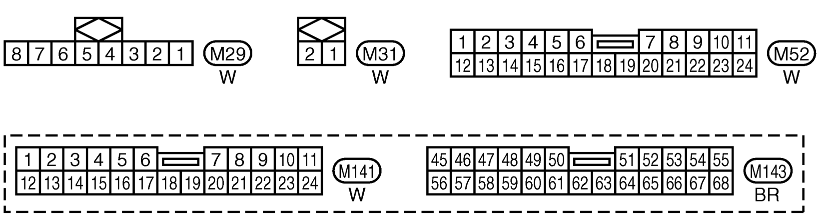
Terminal No.	Wire color	Connections	Operated condition	Voltage (Approximate values)
7	R/B	Door switch (Driver/Passenger)	OFF (Closed) → ON (Open)	12V → 0V
17	R/Y	Driver door switch	Driver door: OFF (Closed) → ON (Open)	12V → 0V
18	L/B	Combination switch (Lighting switch)	1ST, 2ND Position: ON → OFF	12V → 0V
19	BR	Key switch	Key inserted → Key withdrawn from IGN key cylinder	12V → 0V
21	L/W	Driver door unlock sensor	Driver door: OFF (Locked) → ON (Unlocked)	12V → 0V
22	B/R	Door lock/unlock switch	Neutral → Locked	12V → 0V
23	B/Y	Door lock/unlock switch	Neutral → Unlocked	12V → 0V
24	SB	Rear window defogger switch	OFF → ON (Ignition key is in “OFF” position)	12V → 0V
28	B/W	Rear window defogger relay	Rear window defogger switch: OFF → ON (Ignition key is in “ON” position)	12V → 0V*1
30	L/B	Door lock relay	Door lock/unlock switch: Neutral → Locked	12V → 0V → 12V
31	L/Y	Door lock relay	Door lock/unlock switch: Neutral → Unlocked	12V → 0V → 12V
32	R/W	Interior room lamp	Driver/Passenger door: OFF (Closed) → ON (Open) (Lamp switch in “Door” position)	12V → 0V
			Ignition key is in “ON” position (Lamp switch in “Door” position)	12V
			Key withdrawn from IGN key cylinder (Lamp switch in “Door” position)	0V*2
35, 56, 68	B	Ground	—	—
45	R	Battery	Battery voltage	12V
46	W/B	Ignition switch	ON or START → OFF or ACC	12V → 0V

*1: Rear defogger ON (For approximately 15 minutes)
*2: Will increase to 12 volts approximately 20 seconds after the key is withdrawn from IGN key cylinder.

Wiring Diagram — NATS —

EL-NATS-01





Refer to last page (Foldout page).

M21 , E127

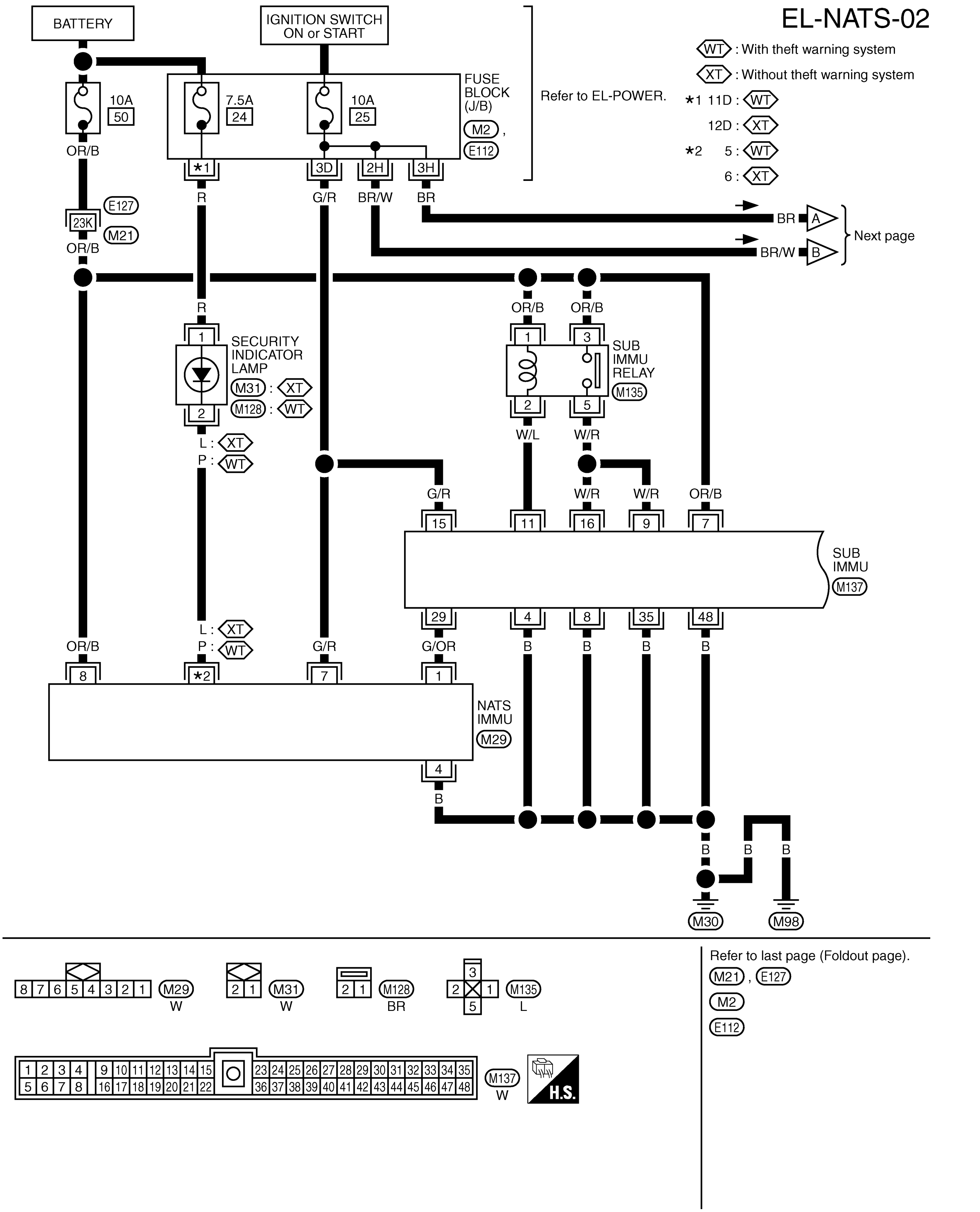
M2

M3

F8

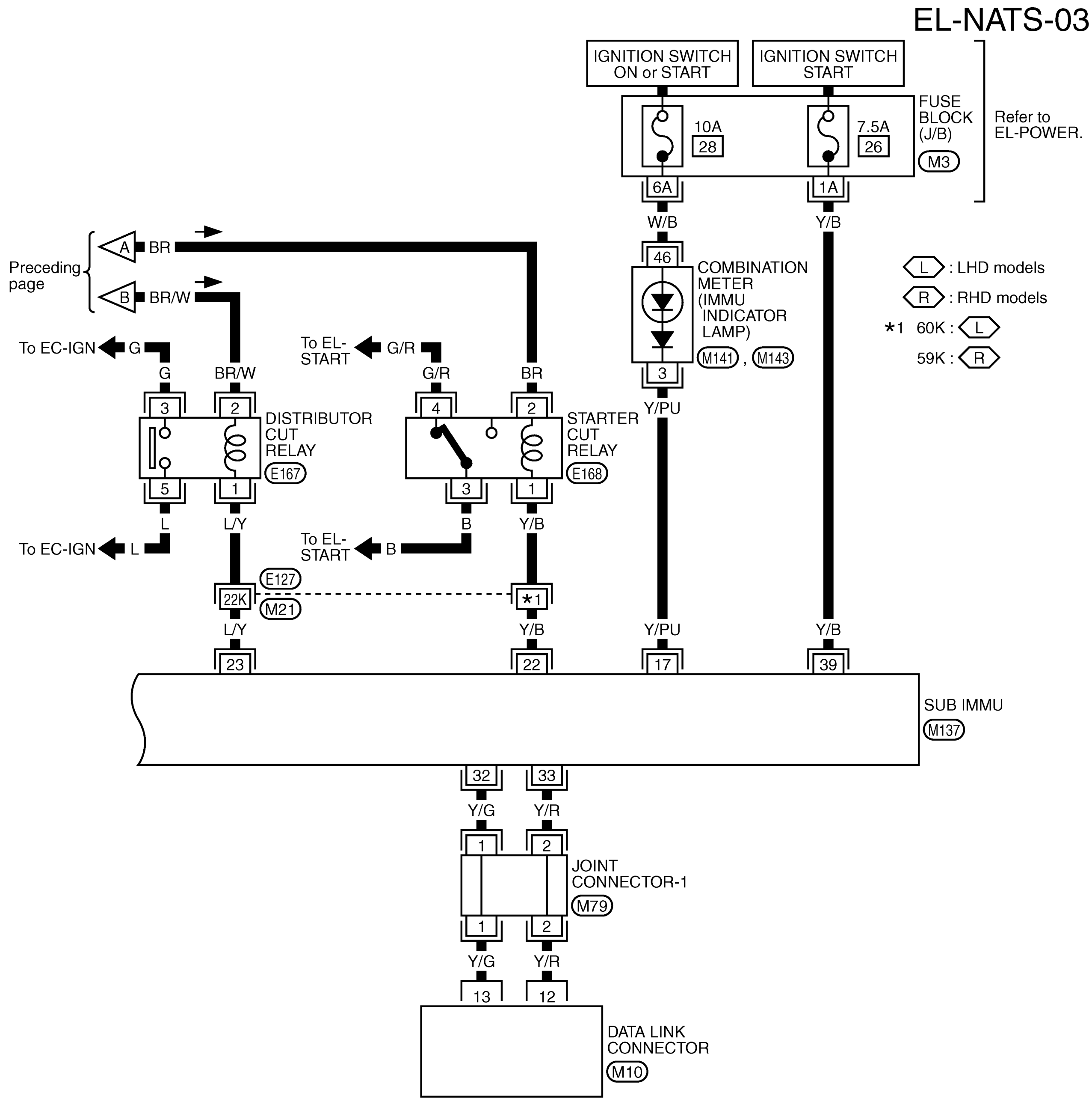
TEL611M

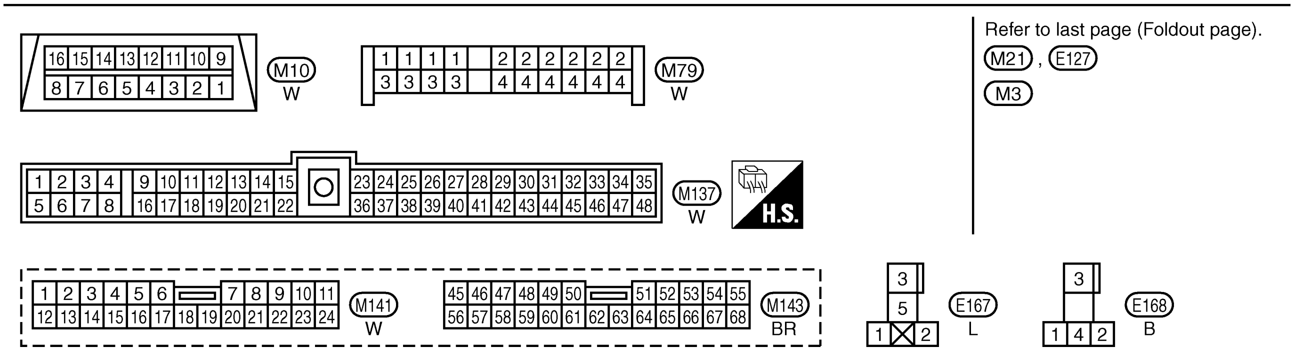
Wiring Diagram — NATS —



TEL612M

Wiring Diagram — NATS — (Cont'd)





TEL613M

System Description

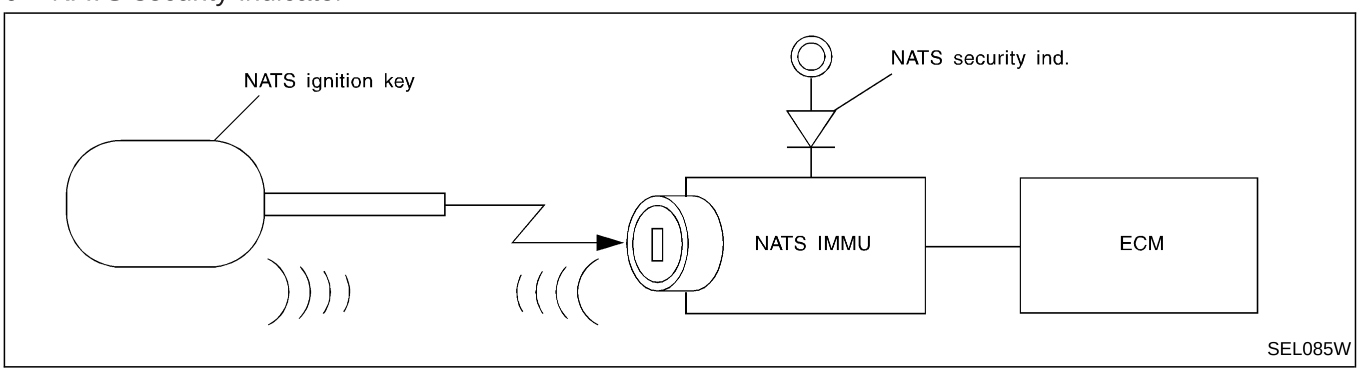
NATS (Nissan Anti-Theft System) has the following immobilizer functions:

- Since only NATS ignition keys, whose ID nos. have been registered into the ECM and IMMU of NATS, allow the engine to run, operation of a stolen vehicle without a NATS registered key is prevented by NATS. That is to say, NATS will immobilize the engine if someone tries to start it without the registered key of NATS.
- Both of the originally supplied ignition key IDs have been NATS registered.
  If requested by the vehicle owner, a maximum of five key IDs can be registered into the NATS components.
- The security indicator blinks when the ignition switch is in “OFF” or “ACC” position. Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system.
- When NATS detects trouble, the security indicator lamp lights up while ignition key is in the “ON” position.
- NATS trouble diagnoses, system initialization and additional registration of other NATS ignition key IDs must be carried out using CONSULT-II hardware and CONSULT-II NATS software.
  When NATS initialization has been completed, the ID of the inserted ignition key is automatically NATS registered. Then, if necessary, additional registration of other NATS ignition key IDs can be carried out.
  Regarding the procedures of NATS initialization and NATS ignition key ID registration, refer to CONSULT-II operation manual, NATS.
- **When servicing a malfunction of the NATS (indicated by lighting up of Security Indicator Lamp) or registering another NATS ignition key ID no., it is necessary to re-register original key identification. Therefore, be sure to receive ALL KEYS from vehicle owner.**

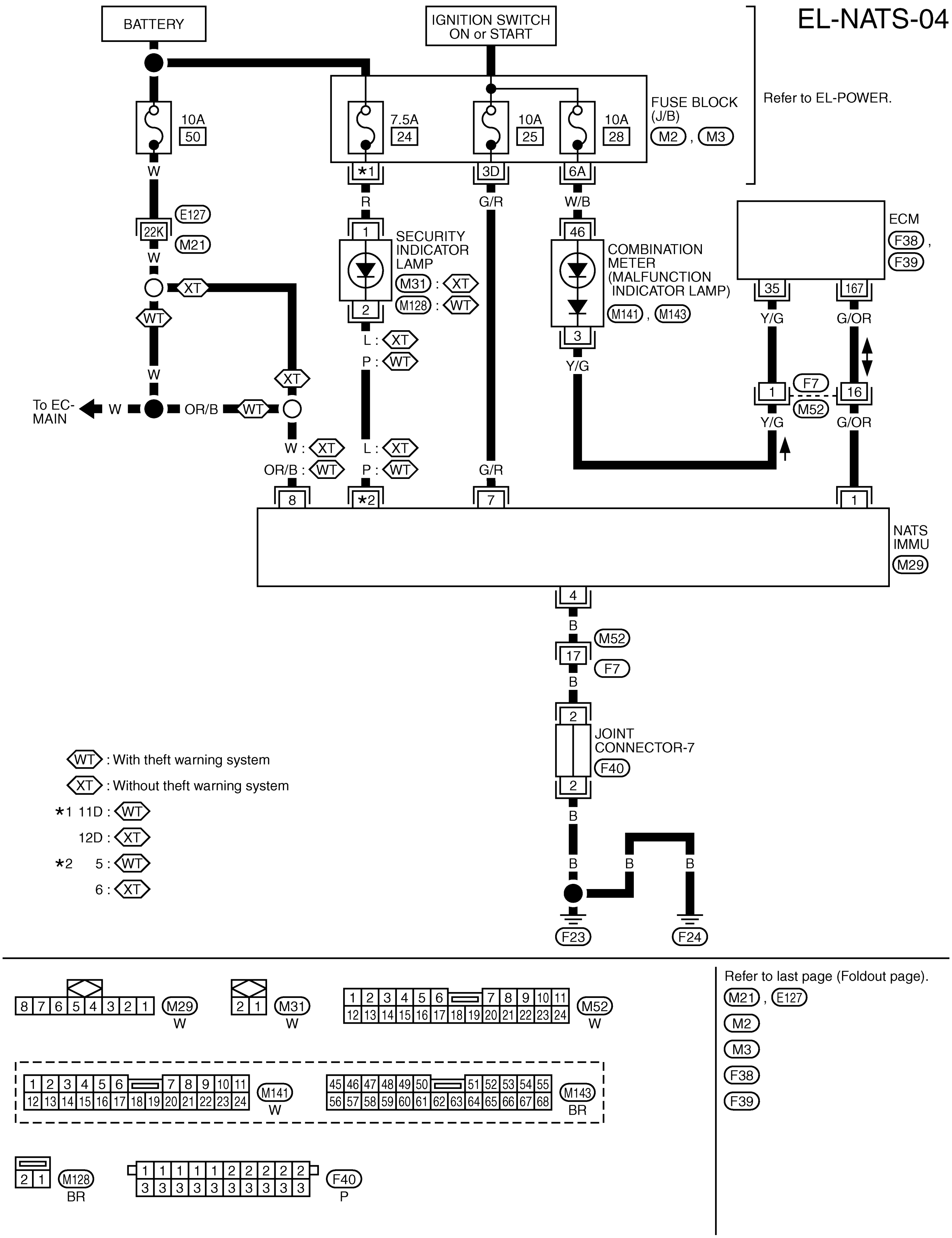
System Composition

The immobilizer function of the NATS consists of the following:

- NATS ignition key
- NATS immobilizer control unit NATS (IMMU), located in the ignition key cylinder
- Engine control module (ECM)
- NATS security indicator



Wiring Diagram — NATS —

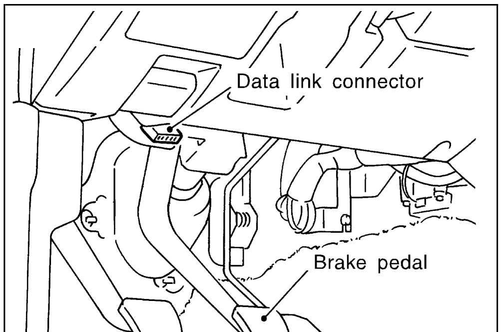


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TEL610M

CONSULT-II

CONSULT-II INSPECTION PROCEDURE

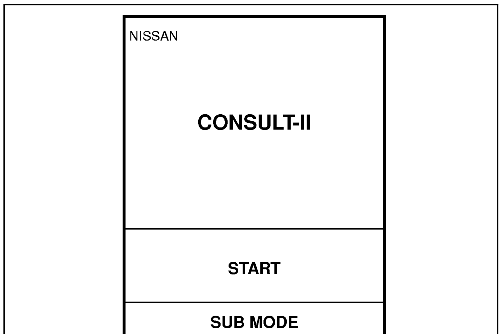


SEF532VA

1. Turn ignition switch OFF.
2. Insert NATS program card into CONSULT-II.

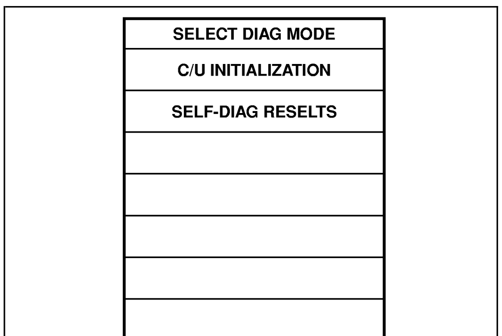
Program card
AEN00A

3. Connect CONSULT-II to Data link connector which is located behind the fuse box cover.



PBR455D

4. Turn ignition switch ON.
5. Touch “START”.



SEL150X

6. Perform each diagnostic test mode according to each service procedure.

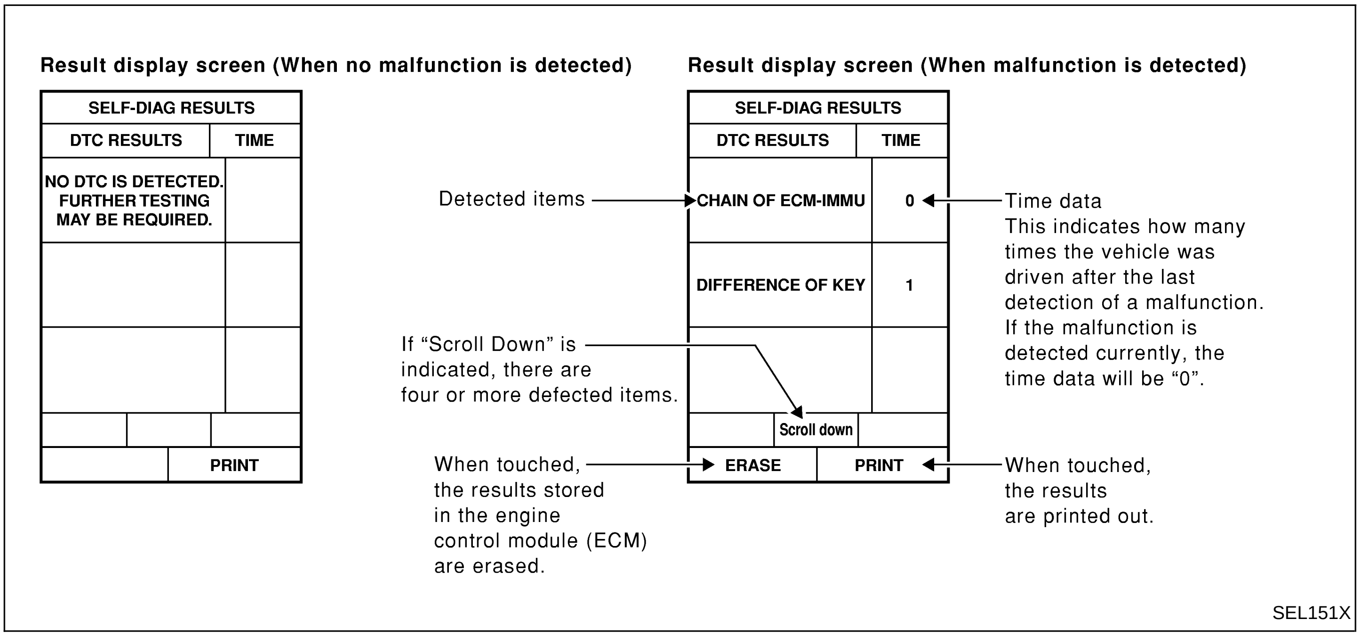
For further information, see the CONSULT-II Operation Manual, NATS.

CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

CONSULT-II DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following components, C/U initialization is necessary. [NATS ignition key/IMMU/ECM/Dongle unit]
SELF-DIAG RESULTS	Detected items (screen terms) are as shown in the chart below.

NOTE:
When any initialization is performed, all ID previously registered will be erased. So all NATS ignition keys must be registered again.
The engine cannot be started with an unregistered key. In this case, the system may show "DIFFERENCE OF KEY" or "LOCK MODE" as a self-diagnostic result on the CONSULT-II screen.

HOW TO READ SELF-DIAGNOSTIC RESULTS



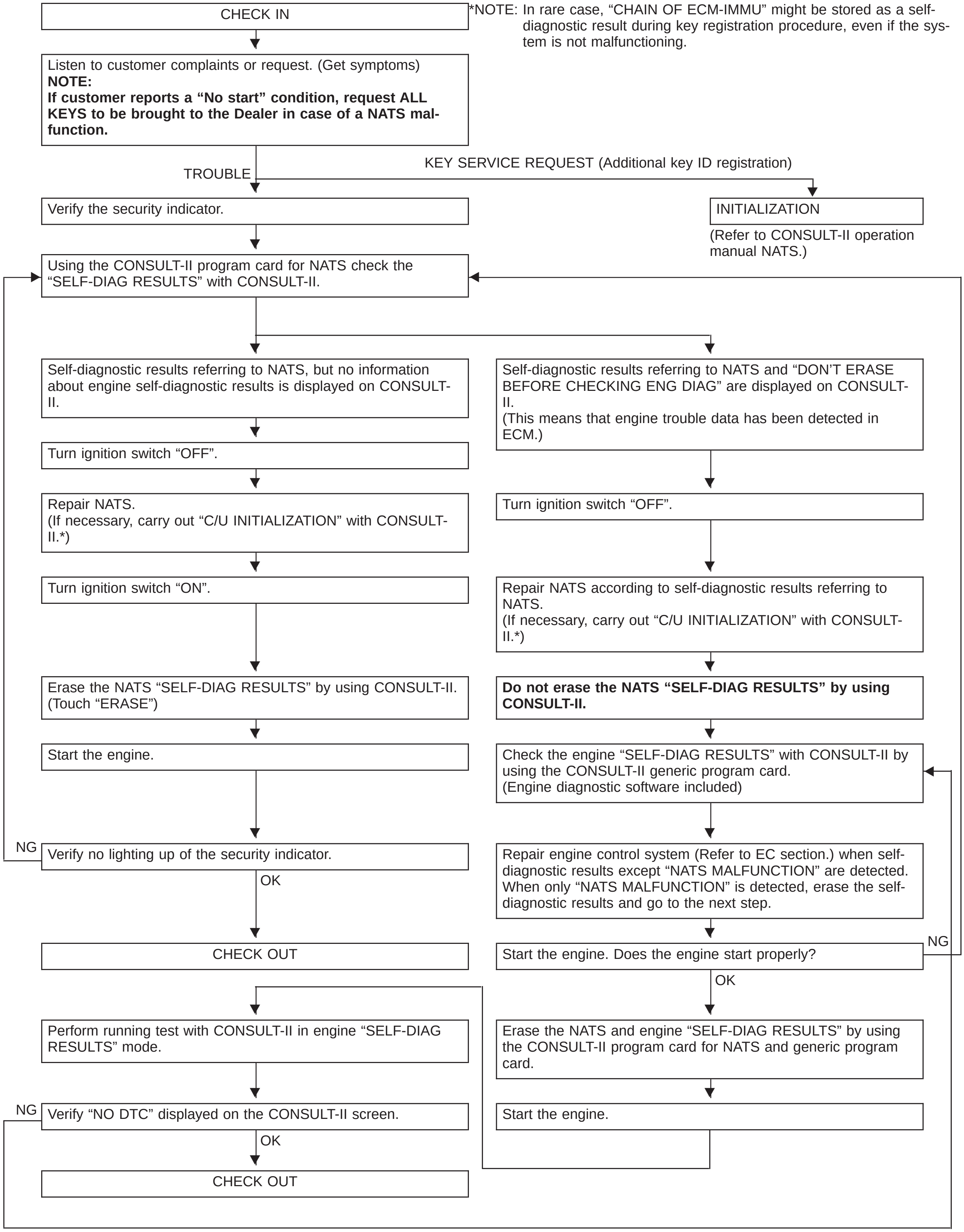
SELF-DIAGNOSTIC RESULTS ITEM CHART

Detected items (Screen terms)	Description	Reference page
ECM INT CIRC-IMMU	The malfunction of ECM internal circuit of IMMU communication line is detected.	EL-322
CHAIN OF ECM-IMMU	Communication impossible between ECM and IMMU. (In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.)	EL-323
DIFFERENCE OF KEY	IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG.	EL-325
CHAIN OF IMMU-KEY	IMMU cannot receive the key ID signal. Otherwise, the registered ID signal from dongle unit cannot be received when the IMMU requests the ID.	EL-325
ID DISCORD, IMM-ECM	The result of ID verification between IMMU and ECM is NG. System initialization is required.	EL-326
DON'T ERASE BEFORE CHECKING ENG DIAG	Engine trouble data and NATS trouble data have been detected in ECM.	EL-320
LOCK MODE	When the starting operation is carried out 5 or more times consecutively under the following conditions, NATS will shift the mode to one which prevents the engine from being started. ● unregistered ignition key is used ● IMMU or ECM malfunctioning	EL-327

Trouble Diagnoses

WORK FLOW

*NOTE: In rare case, "CHAIN OF ECM-IMMU" might be stored as a self-diagnostic result during key registration procedure, even if the system is not malfunctioning.



Trouble Diagnoses (Cont'd)

SYMPTOM MATRIX CHART 1
(Self-diagnosis related item)

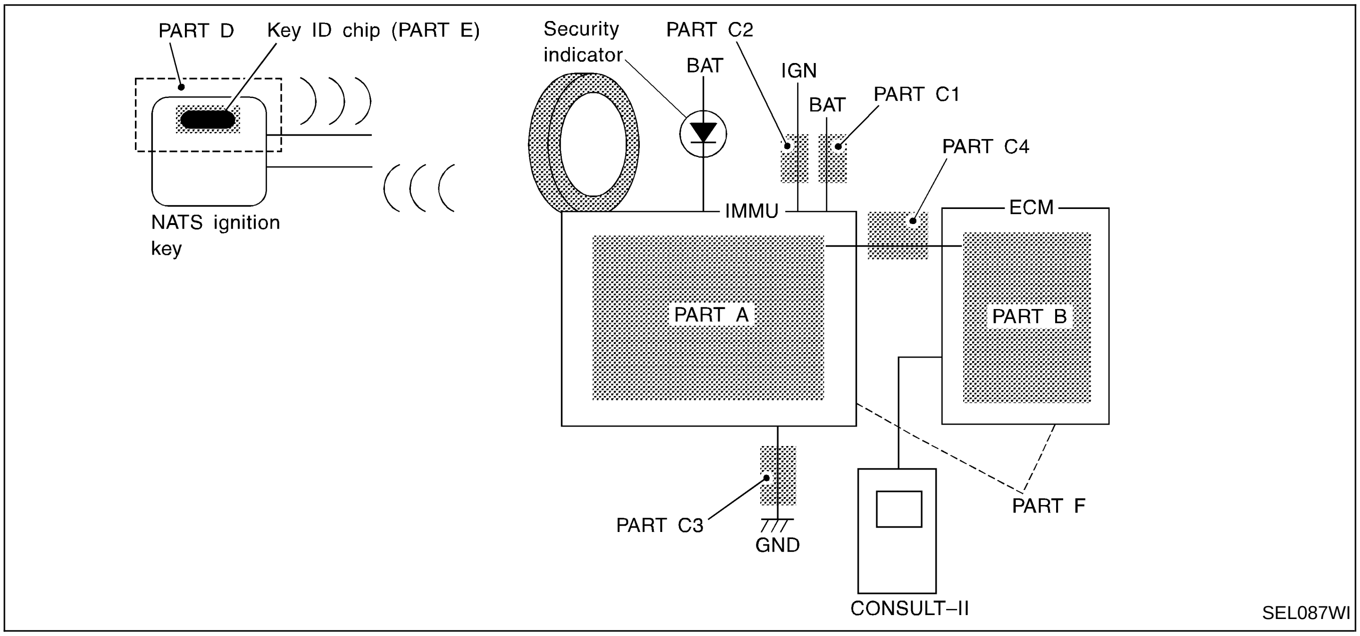
SYMPTOM	Displayed "SELF-DIAG RESULTS" on CONSULT-II screen.	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)	REFERENCE PART NO. OF ILLUSTRATION ON DIAGNOSTIC SYSTEM DIAGRAM
● Security indicator lighting up* ● Engine does not start	ECM INT CIRC-IMMU	PROCEDURE 1 (EL-322)	ECM	B
	CHAIN OF ECM-IMMU	PROCEDURE 2 (EL-323)	In rare case, "CHAIN OF ECM-IMMU might be stored during key registration procedure, even if the system is not malfunctioning.	—
			Open circuit in battery voltage line of IMMU circuit	C1
			Open circuit in ignition line of IMMU circuit	C2
			Open circuit in ground line of IMMU circuit	C3
			Open circuit in communication line between IMMU and ECM	C4
			Short circuit between IMMU and ECM communication line and battery voltage line	C4
			Short circuit between IMMU and ECM communication line and ground line	C4
			ECM	B
			IMMU	A
	DIFFERENCE OF KEY	PROCEDURE 3 (EL-325)	Unregistered key	D
			IMMU	A
	CHAIN OF IMMU-KEY	PROCEDURE 4 (EL-325)	Malfunction of key ID chip	E
			IMMU	A
● Security indicator lighting up* ● Engine hard to start	ID DISCORD, IMM-ECM	PROCEDURE 5 (EL-326)	System initialization has not yet been completed.	F
			ECM	B
	LOCK MODE	PROCEDURE 6 (EL-327)	LOCK MODE	D
● MIL staying ON ● Security indicator lighting up*	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (EL-320)	Engine trouble data and NATS trouble data have been detected in ECM	—

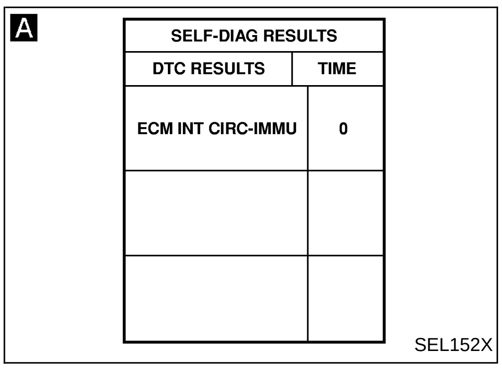
*: When NATS detects trouble, the security indicator lights up while ignition key is in the "ON" position.

SYMPTOM MATRIX CHART 2
(Non self-diagnosis related item)

SYMPTOM	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)	REFERENCE PART NO. OF ILLUSTRATION ON DIAGNOSTIC SYSTEM DIAGRAM
Security ind. does not light up.	PROCEDURE 7 (EL-328)	Security ind.	—
		Open circuit between Fuse and NATS IMMU	—
		Continuation of initialization mode	—
		NATS IMMU	A

DIAGNOSTIC SYSTEM DIAGRAM





SELF-DIAG RESULTS	
DTC RESULTS	TIME
ECM INT CIRC-IMMU	0

DIAGNOSTIC PROCEDURE 1

Self-diagnostic results:
"ECM INT CIRC-IMMU" displayed on CONSULT-II screen

A

Confirm SELF-DIAGNOSTIC RESULTS "ECM INT CIRC-IMMU" displayed on CONSULT-II screen.
Ref. part No. B.

↓

Replace ECM.

↓

Perform initialization with CONSULT-II.
For the operation of initialization, refer to "CONSULT-II operation manual NATS".

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

Self-diagnostic results:
"CHAIN OF ECM-IMMU" displayed on CONSULT-II screen

A

SELF-DIAG RESULTS	
DTC RESULTS	TIME
CHAIN OF ECM-IMMU	0

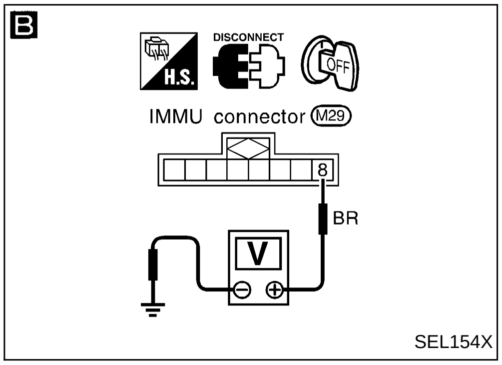
SEL153X

A

Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF ECM-IMMU"* displayed on CONSULT-II screen.

*: In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.

OK ↓



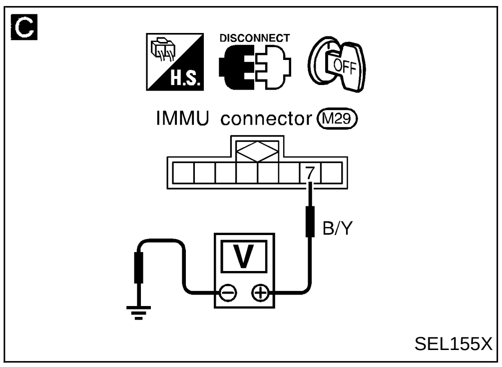
B

CHECK POWER SUPPLY CIRCUIT FOR IMMU.
Check voltage between terminal ⑧ of IMMU and ground.
Voltage: Battery voltage

NG → Check the following:
- 10A fuse (No. 50, located in the fuse and fusible link box)
- Harness for open or short between fuse and IMMU connector

Ref. part No. C1

OK ↓



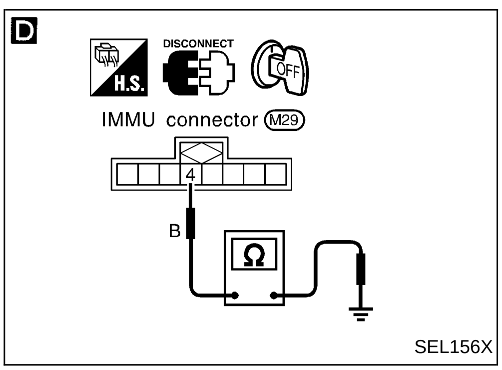
C

CHECK IGN SW. ON SIGNAL.
Check voltage between terminal ⑦ of IMMU and ground while ignition switch is in the "ON" position.
Voltage: Battery voltage

NG → Check the following:
- 10A fuse [No. 25, located in the fuse block (J/B)]
- Harness for open or short between fuse and IMMU connector

Ref. part No. C2

OK ↓

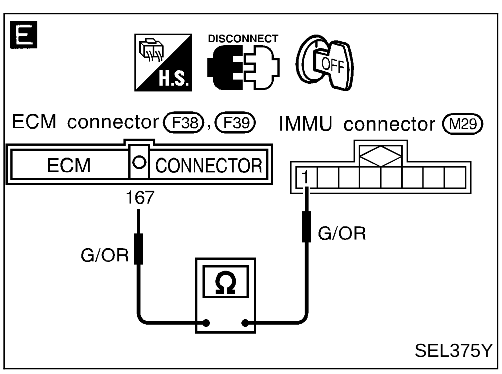


D

CHECK GROUND CIRCUIT FOR IMMU.
Check harness continuity between IMMU terminal ④ and ground.
Continuity should exist.

NG → Repair harness.
Ref. part No. C3

OK ↓



E

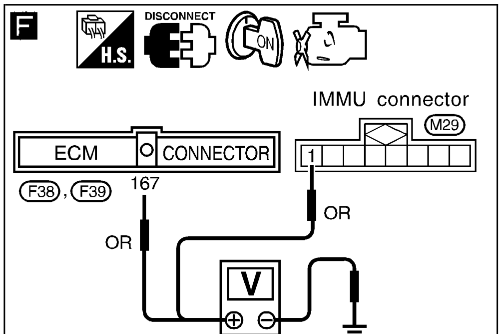
CHECK COMMUNICATION ON OPEN CIRCUIT.
Check harness continuity between ECM terminal (167) and IMMU terminal ①.
Continuity should exist.

NG → Repair harness.
Ref. part No. C4

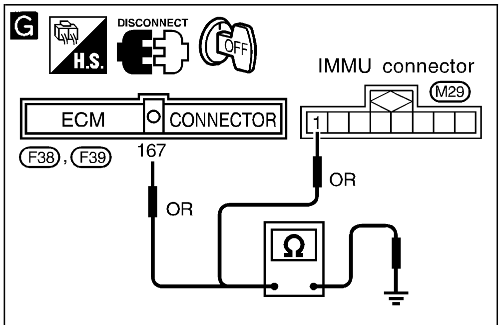
OK ↓

Ⓐ

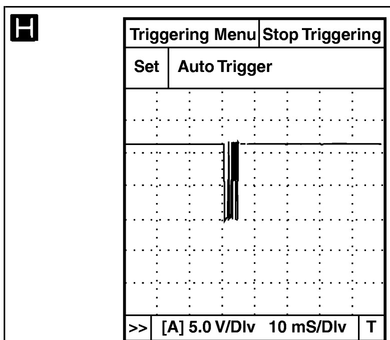
Trouble Diagnoses (Cont'd)



SEL376Y



SEL377Y



SEL193X

Ⓐ

F

CHECK COMMUNICATION LINE BATTERY SHORT CIRCUIT.

1. Disconnect ECM connector and IMMU connector.
2. Turn ignition switch to ON.
3. Check voltage between ECM terminal (167) or IMMU terminal ① and ground.
   No voltage should exist.

NG → Repair harness. **Ref. part No. C4**

OK ↓

G

CHECK COMMUNICATION LINE GROUND SHORT CIRCUIT.

1. Disconnect ECM connector and IMMU connector.
2. Turn ignition switch OFF.
3. Check continuity between ECM terminal (167) or IMMU terminal ① and ground.
   Continuity should not exist.

NG → Repair harness. **Ref. part No. C4**

OK ↓

H

SIGNAL FROM ECM TO IMMU CHECK

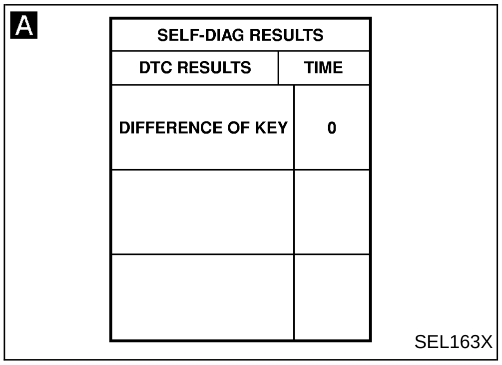
1. Check the signal between ECM terminal (167) and ground with CONSULT-II or oscilloscope when ignition switch is turned "ON".
2. Make sure signals which are shown in the figure below can be detected during 750 msec. just after ignition switch is turned "ON".

NG →
- ECM is malfunctioning.
  1. Replace ECM. **Ref. part No. B**
  2. Perform initialization with CONSULT-II. For the initialization procedure, refer to "CONSULT-II operation manual NATS".

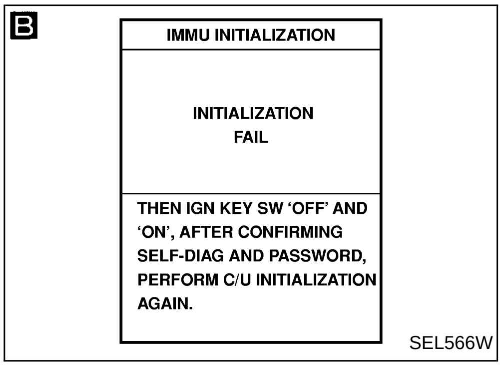
OK ↓

- IMMU is malfunctioning.
  1. Replace IMMU. **Ref. part No. A**
  2. Perform initialization with CONSULT-II. For the initialization procedure, refer to "CONSULT-II operation manual NATS".

Trouble Diagnoses (Cont'd)



SEL163X



SEL566W

DIAGNOSTIC PROCEDURE 3

Self-diagnostic results:
"DIFFERENCE OF KEY" displayed on CONSULT-II screen

A

Confirm SELF-DIAGNOSTIC RESULTS "DIFFERENCE OF KEY" displayed on CONSULT-II screen.

OK ↓

PERFORM INITIALIZATION.
Perform initialization with CONSULT-II.
Re-register all NATS ignition key IDs.
For the initialization procedure, refer to "CONSULT-II operation manual NATS".

Initialization with CONSULT-II incomplete or failed → B

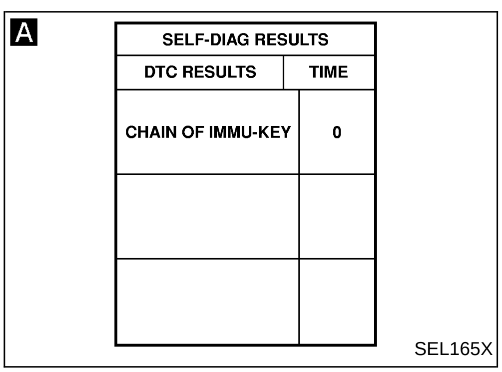
- IMMU is malfunctioning.
  1. Replace IMMU.
     Ref. part No. A
  2. Perform initialization with CONSULT-II. For the initialization procedure, refer to "CONSULT-II operation manual NATS".

Initialization completed ↓

Start engine.

↓

END.
(The ignition key was unregistered.)
Ref. part No. D



SEL165X

DIAGNOSTIC PROCEDURE 4

Self-diagnostic results:
"CHAIN OF IMMU-KEY" displayed on CONSULT-II screen

A

Confirm SELF-DIAGNOSTIC RESULTS "CHAIN OF IMMU-KEY" displayed on CONSULT-II screen.

OK ↓

CHECK NATS IGNITION KEY ID CHIP.
Start engine with another registered NATS ignition key.
Does the engine start?

Yes →

- Ignition key ID chip is malfunctioning.
  1. Replace the ignition key.
     Ref. part No. E
  2. Perform initialization with CONSULT-II.
     For the initialization procedure, refer to "CONSULT-II operation manual NATS".

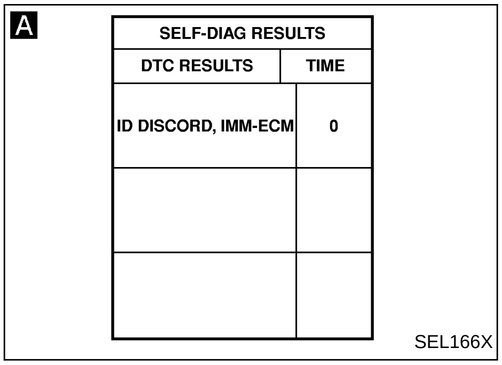
No ↓

- IMMU is malfunctioning.
  1. Replace IMMU.
     Ref part No. A
  2. Perform initialization with CONSULT-II.
     For the initialization procedure, refer to "CONSULT-II operation manual NATS".

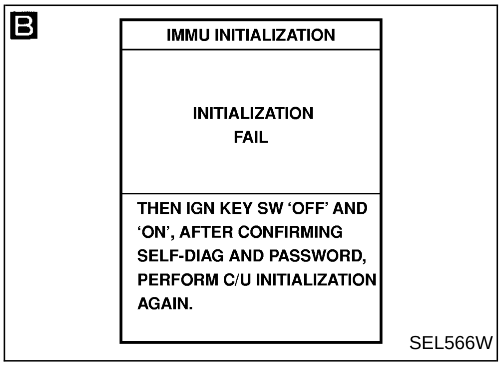
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

Self-diagnostic results:
"ID DISCORD, IMM-ECM" displayed on CONSULT-II screen



SEL166X



SEL566W

A

Confirm SELF-DIAGNOSTIC RESULTS "ID DISCORD, IMM-ECM*" displayed on CONSULT-II screen.

* "ID DISCORD, IMM-ECM": Registered ID of IMMU is in discord with that of ECM.

↓

PERFORM INITIALIZATION.
Perform initialization with CONSULT-II.
Re-register all NATS ignition key IDs.
For the initialization procedure, refer to "CONSULT-II operation manual NATS".

Initialization with CONSULT-II incomplete or failed → **B**

- ECM is malfunctioning.

1. Replace ECM.
   Ref. part No. B
2. Perform initialization with CONSULT-II.
   For the initialization procedure, refer to "CONSULT-II operation manual NATS".

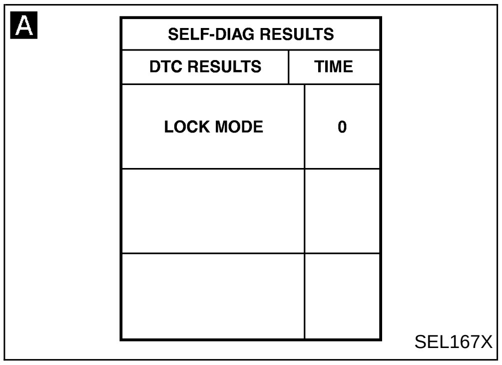
Initialization completed ↓

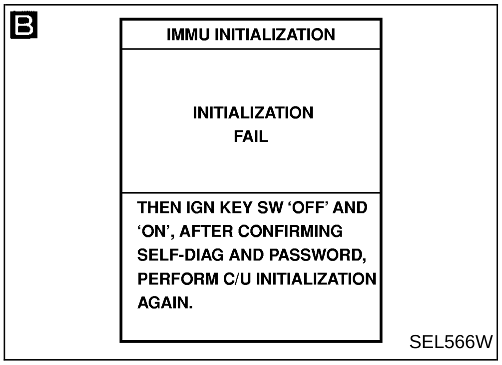
Start engine. (END)
(System initialization was not completed.
Ref. part No. F)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6

Self-diagnostic results:
"LOCK MODE" displayed on CONSULT-II screen





A

Confirm SELF-DIAGNOSTIC RESULTS "LOCK MODE" is displayed on CONSULT-II screen.

↓

1. Turn the ignition switch to OFF position.
2. Turn the ignition key switch to ON position with a registered key.
   (Do not start engine.) Wait 5 seconds.
3. Return the key to the OFF position.
4. Repeat steps 2 and 3 twice (total of three cycles).
5. Start the engine.
   Does the engine start?

Yes → System is OK. (Now the system is escaped from "LOCK MODE".)

No ↓

CHECK NATS IMMU INSTALLATION.
Refer to "How to Replace NATS IMMU" in EL-329.

NG → Reinstall NATS IMMU correctly.

OK ↓

PERFORM INITIALIZATION.
Perform initialization with CONSULT-II.
For the initialization procedure, refer to "CONSULT-II operation manual NATS".
Can the system be initialized?
Note: If the initialization is incompleted or failed, CONSULT-II shows B message on the screen.

Yes → System is OK.

No ↓

Go to DIAGNOSTIC PROCEDURE 4, EL-325 to check "CHAIN OF IMMU-KEY".

GI
MA
EM
LC
EC
FE
CL
MT
AT
TF
PD
FA
RA
BR
ST
RS
BT
HA
EL
SE
IDX

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

"SECURITY IND. DOES NOT LIGHT UP"

Check 7.5A fuse [No. 24 , located in the fuse block (J/B)].
- NG → Replace fuse.
- OK ↓

NATS INITIALIZATION
1) Install the 7.5A fuse.
2) Perform initialization with CONSULT-II.
   For the operation of initialization, refer to "CONSULT-II operation manual NATS".

↓

Turn ignition switch "OFF".

↓

Start engine and turn ignition switch "OFF".

↓

Check the security ind. lighting.
- OK → END
- NG ↓

A

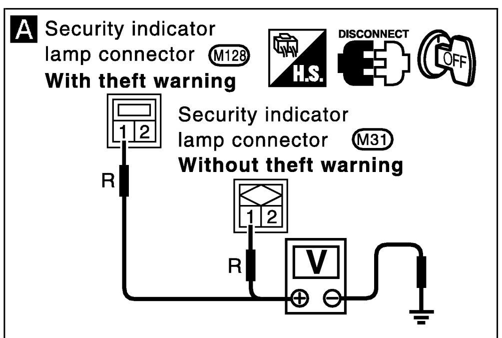
Check voltage between security ind. connector terminal ① and ground.
Voltage: Battery voltage
- NG → Check harness for open or short between fuse and security ind.
- OK ↓

CHECK INDICATOR LAMP.
- NG → Repair harness.
- OK ↓

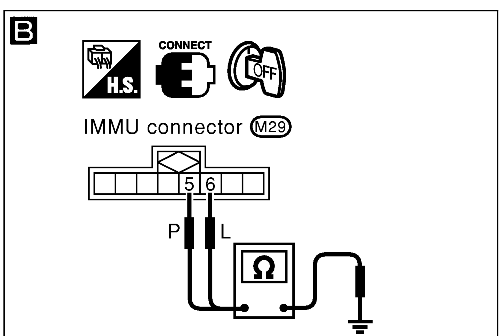
B

CHECK NATS IMMU FUNCTION.
1. Connect NATS IMMU connector.
2. Disconnect security ind. connector.
3. Check continuity between NATS IMMU terminal ⑥ (without theft warning) or ⑤ (with theft warning) and ground.
   Continuity should exist intermittently.
- NG → NATS IMMU is malfunctioning. Replace IMMU. ↓ Perform initialization with CONSULT-II. For the operation of initialization, refer to "CONSULT-II operation manual NATS".
- OK ↓

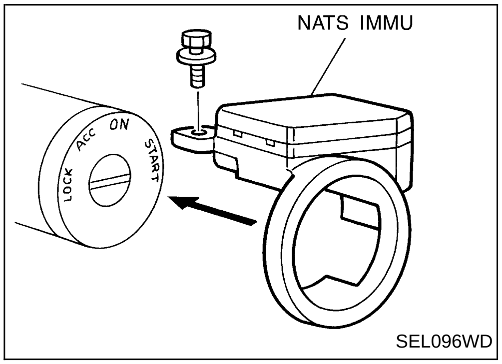
Check harness for open or short between security indicator and NATS IMMU.



CEL367A



CEL368A



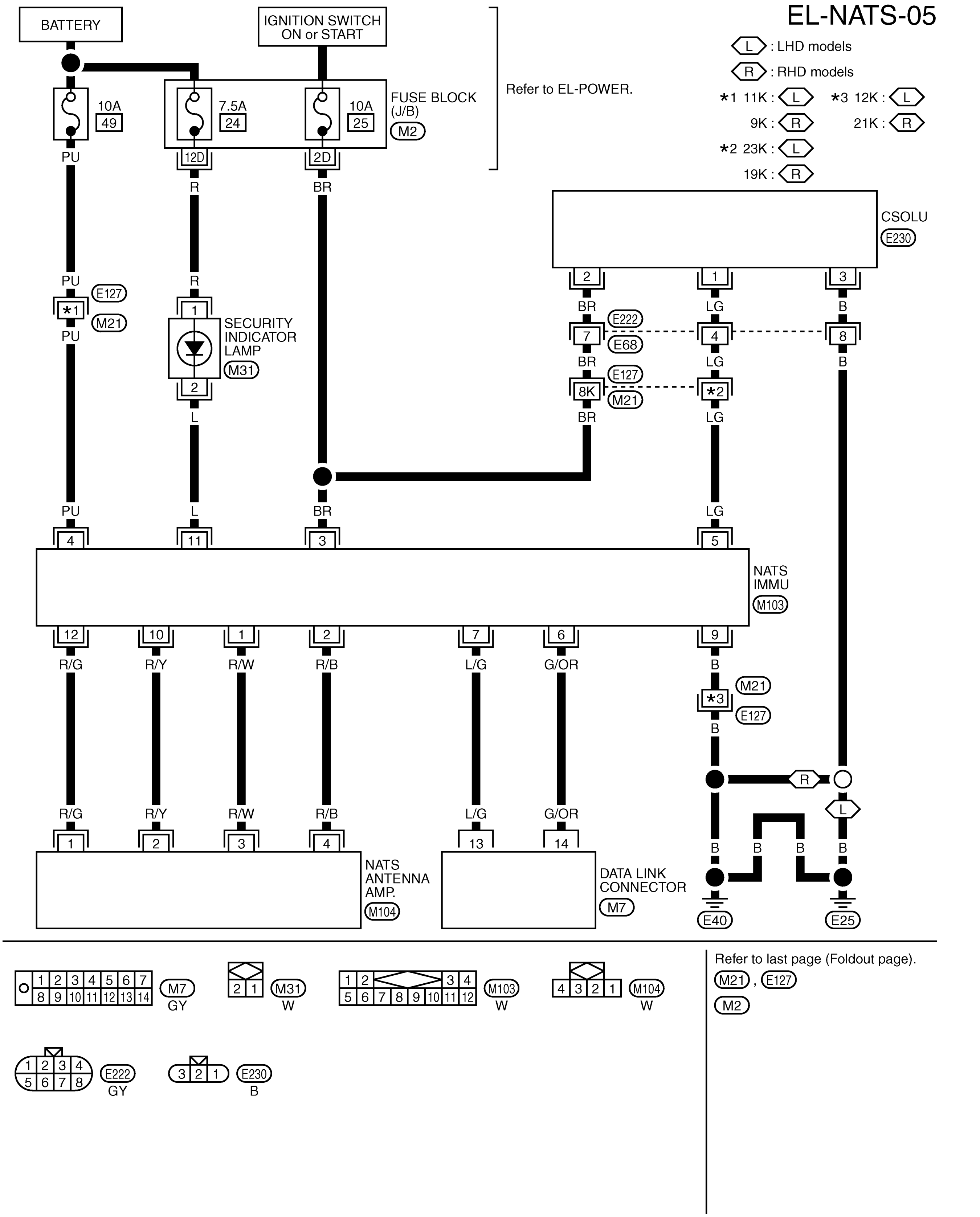
SEL096WD

How to Replace NATS IMMU

NOTE:

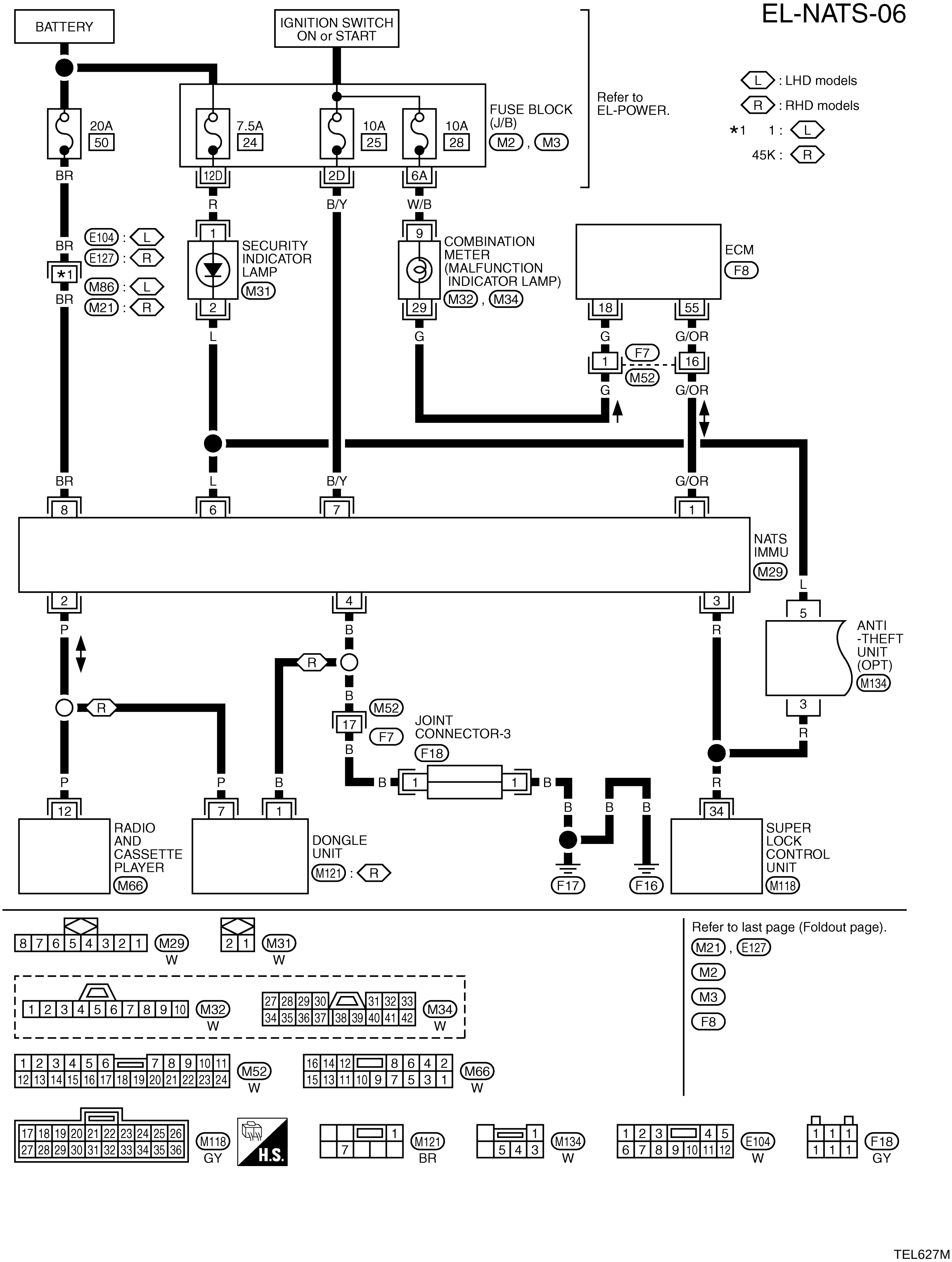
- **If NATS IMMU is not installed correctly, NATS system will not operate properly and SELF-DIAG RESULTS on CONSULT-II screen will show “LOCK MODE”.**

Wiring Diagram — NATS —



TEL614M

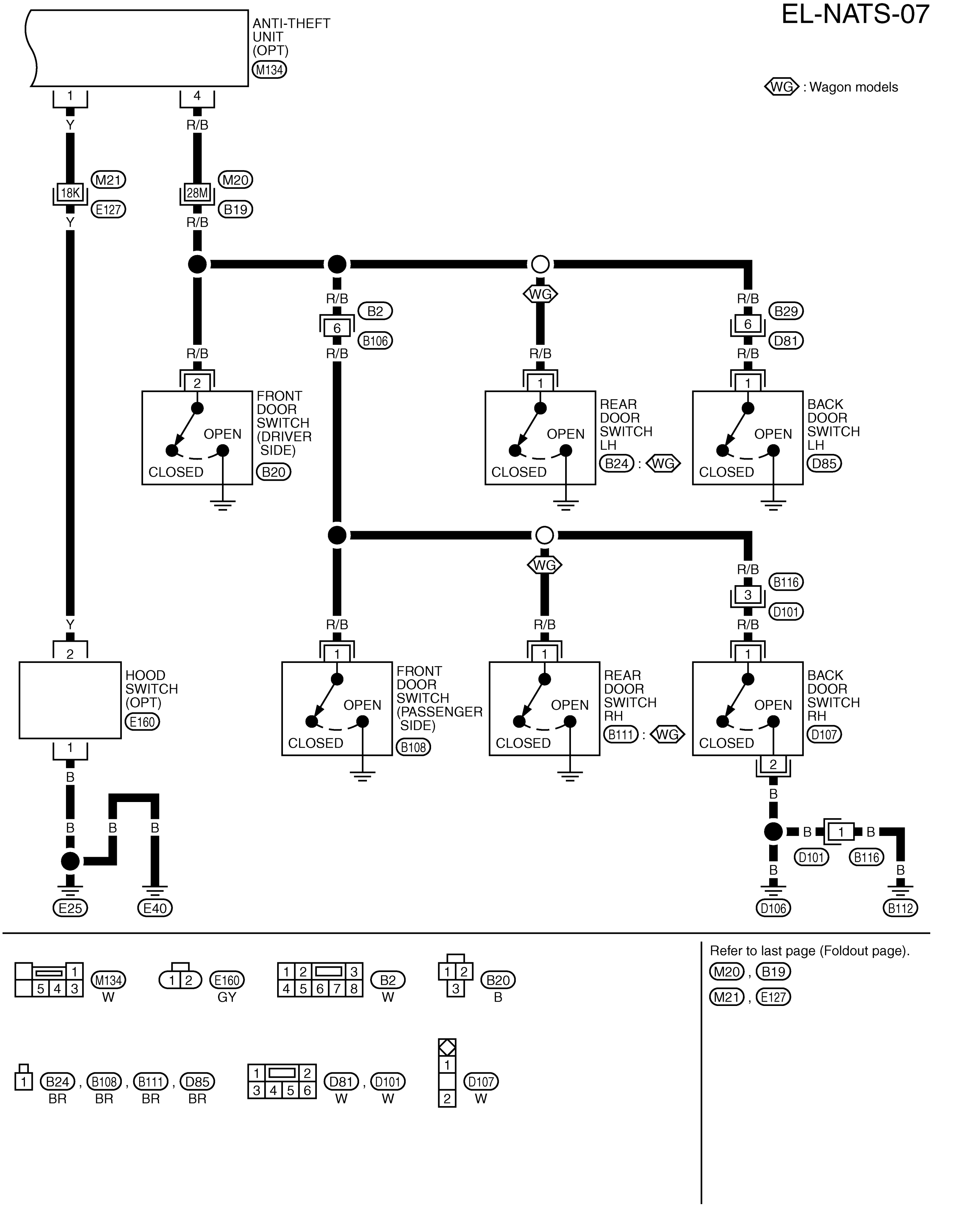
Wiring Diagram — NATS —/For Europe



GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Wiring Diagram — NATS —/LHD Models for Europe

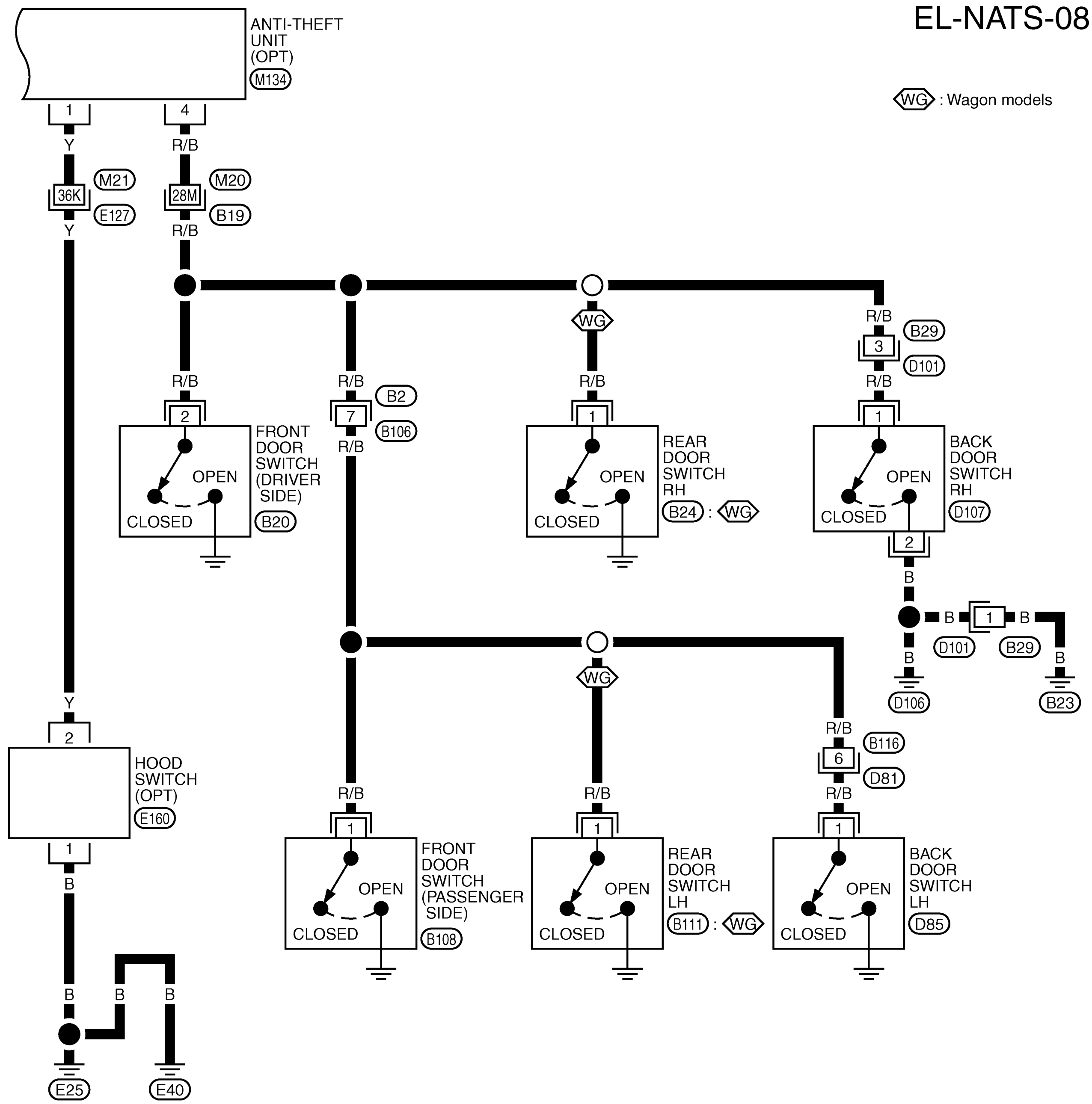
EL-NATS-07

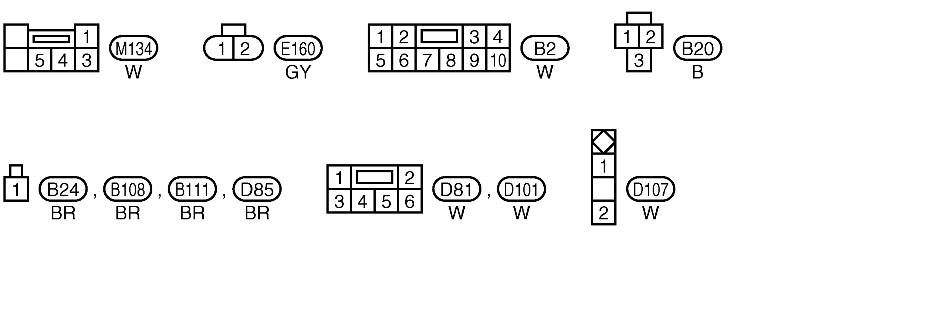


TEL628M

Wiring Diagram — NATS —/RHD Models for Europe

EL-NATS-08



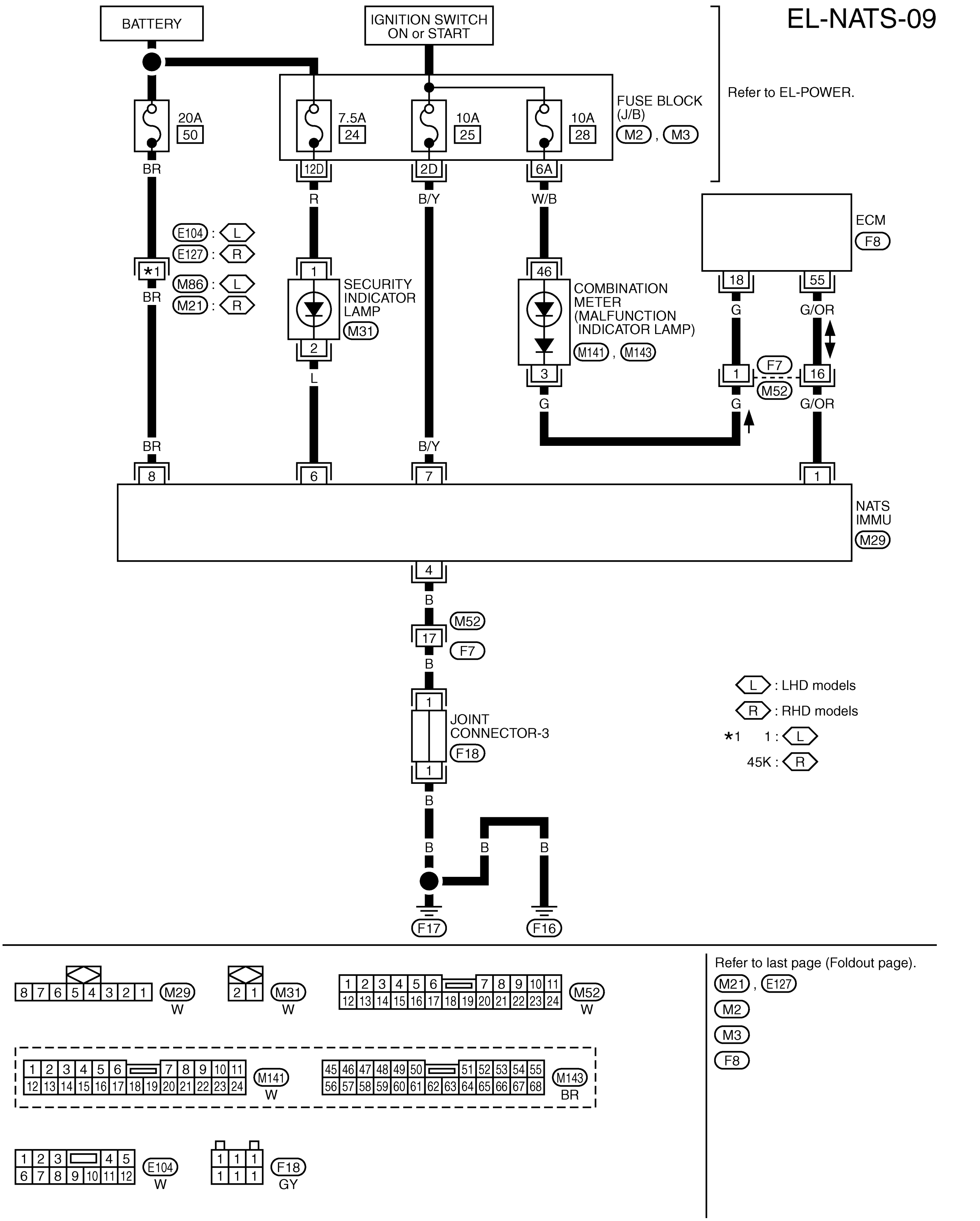


Refer to last page (Foldout page).
M20 , B19
M21 , E127

TEL629M

Wiring Diagram — NATS —/Except for Europe

EL-NATS-09

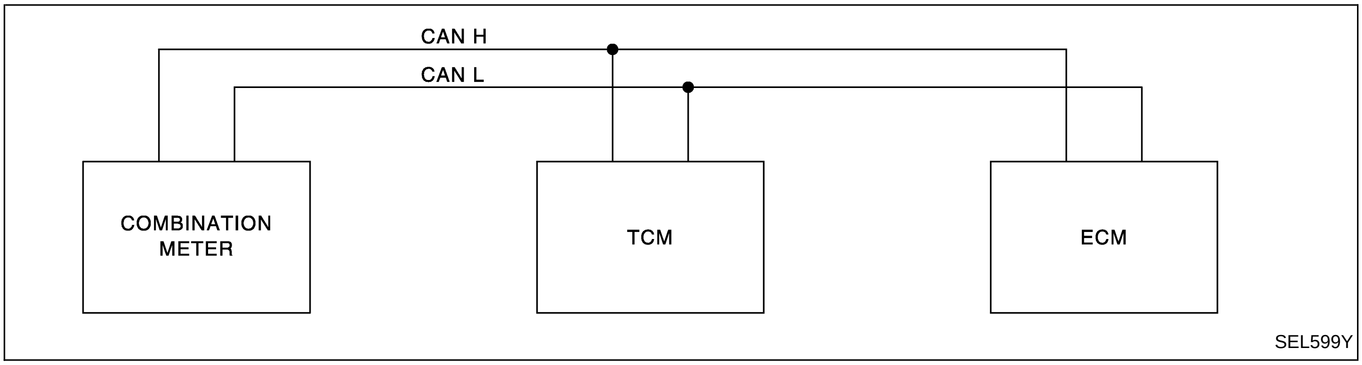


TEL609M

System Description

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

SYSTEM DIAGRAM



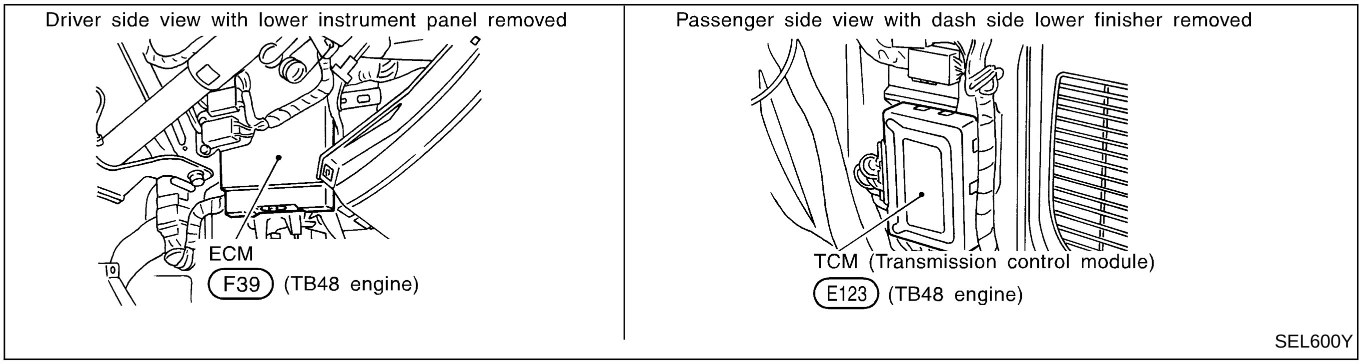
INPUT/OUTPUT SIGNAL CHART

T: Transmit R: Receive

Signals	Combination meter	TCM	ECM
Engine speed signal	R	R	T
Engine coolant temperature signal	R	R	T
Accelerator pedal position signal		R	T
Closed throttle position signal		R	T
Wide open throttle position signal		R	T
A/T fluid temperature warning lamp signal	R	T	R
Current gear position signal	R	T	R
Shift change signal		T	R
Air conditioner switch signal	T		R
Headlamp switch signal	T		R
Rear window defogger switch signal	T		R
Brake switch signal	T	R	
Vehicle speed signal	T	R	R
A/T self diagnosis signal		T	R
Manual mode signal	T	R	

Go to Technical Bulletin

Component Parts and Harness Connector Location



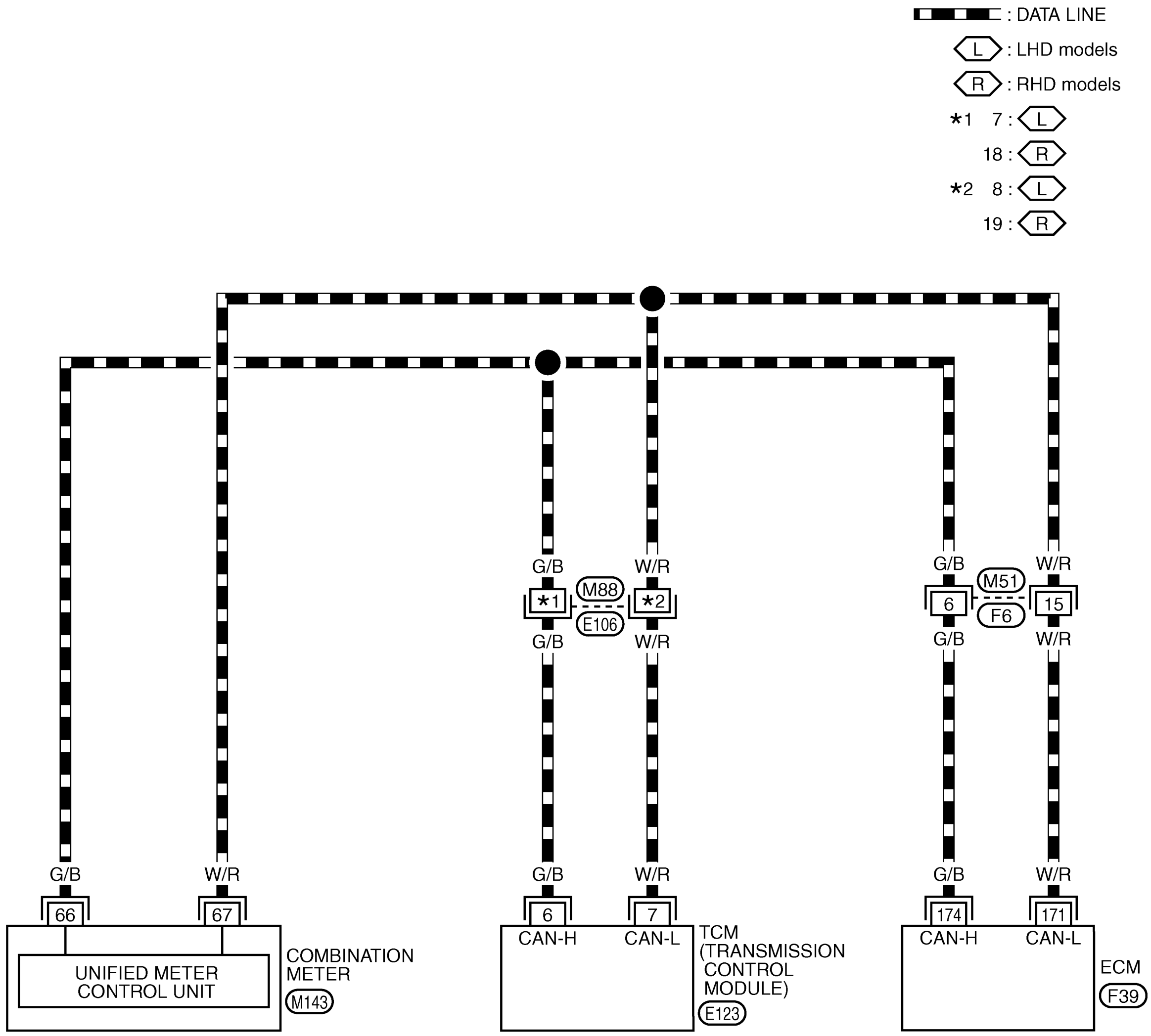
SEL600Y

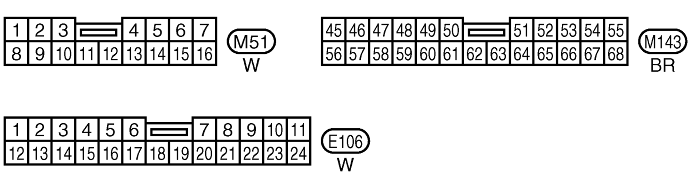
System Description

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

Wiring Diagram — CAN —

EL-CAN-01





Refer to last page (Foldout page).
E123
F39

TEL615M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Trouble Diagnoses

WORK FLOW

1. Print all the data of “SELF-DIAG RESULTS” and “DATA MONITOR” for “ENGINE” and “A/T” displayed on CONSULT-II. Refer to “DTC U1000 CAN COMMUNICATION LINE” (EC section) for “ENGINE” and “DTC U1000 CAN COMMUNICATION LINE” (AT section) for “A/T”.
2. Attach the printed sheet of “SELF-DIAG RESULTS” and “DATA MONITOR” onto the check sheet. Refer to “CHECK SHEET” (EL-339).
3. Based on the data monitor results, put “v” marks onto the items with “UNKWN” or “NG” in the check sheet table. Refer to “CHECK SHEET” (EL-339).

NOTE: If “NG” is displayed on “CAN COMM” for the diagnosed control unit, replace the control unit.

4. According to the check sheet results (example), start inspection. Refer to “CHECK SHEET RESULTS (EXAMPLE)” (EL-340).

CHECK SHEET

Check sheet table

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 4

Symptoms :

Attach copy of
ENGINE SELF-DIAG RESULTS

Attach copy of
A/T SELF-DIAG RESULTS

Attach copy of
ENGINE DATA MONITOR

Attach copy of
A/T DATA MONITOR

SEL601Y

Trouble Diagnoses (Cont’d)

CHECK SHEET RESULTS (EXAMPLE)

Case 1 : Replace ECM

ENGINE	CAN COMM ✓	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 4

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	CAN CIRC 4 ✓
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 4

Case 2 : Replace TCM

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	CAN CIRC 4
A/T	CAN COMM ✓	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 4

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	CAN CIRC 4 ✓

Case 3

ENGINE	CAN COMM	CAN CIRC 1 ✓	—	CAN CIRC 2	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2 ✓	—	CAN CIRC 4

Case 4

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2 ✓	CAN CIRC 4
A/T	CAN COMM	CAN CIRC 1 ✓	CAN CIRC 2	—	CAN CIRC 4

Case 5

ENGINE	CAN COMM	CAN CIRC 1	—	CAN CIRC 2	CAN CIRC 4 ✓
A/T	CAN COMM	CAN CIRC 1	CAN CIRC 2	—	CAN CIRC 4 ✓

Case 6

ENGINE	CAN COMM	CAN CIRC 1 ✓	—	CAN CIRC 2 ✓	CAN CIRC 4 ✓
A/T	CAN COMM	CAN CIRC 1 ✓	CAN CIRC 2 ✓	—	CAN CIRC 4 ✓

SEL602Y

NOTE: If “NG” is displayed on “CAN COMM” for the diagnosed control unit, replace the control unit.

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

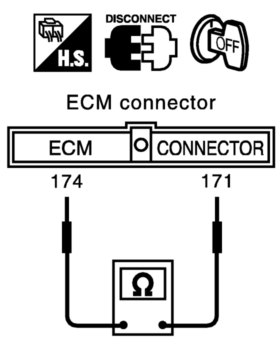
INSPECTION

Proceed trouble diagnosis according to the check sheet results (example).
Case 1: Replace ECM.
Case 2: Replace TCM.
Case 3: Check ECM Circuit. Refer to "ECM CIRCUIT CHECK" (EL-341).
Case 4: Check TCM Circuit. Refer to "TCM CIRCUIT CHECK" (EL-341).
Case 5: Check Combination meter Circuit. Refer to "COMBINATION METER CIRCUIT CHECK" (EL-342).
Case 6: Check CAN communication Circuit. Refer to "CAN COMMUNICATION CIRCUIT CHECK" (EL-343).

ECM CIRCUIT CHECK

1	CHECK CONNECTOR
1. Turn ignition switch OFF. 2. Check following terminals and connector for damage, bend and loose connection. (Control module-side and harness-side) ● ECM ● Harness connector F6 ● Harness connector M51 **OK or NG**	
OK ▶	GO TO 2.
NG ▶	Repair terminal or connector.

2	CHECK HARNESS FOR OPEN CIRCUIT
1. Disconnect ECM connector. 2. Check resistance between ECM harness connector F39 terminals 174 (G/B) and 171 (W/R).	



SEL603Y

174 (G/B) - 171 (W/R): Approx. 108 - 132Ω

OK or NG

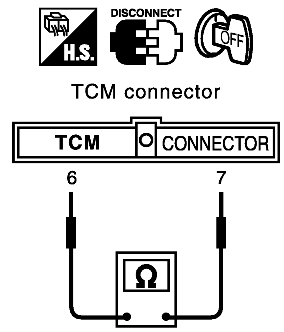
OK ▶	Replace ECM.
NG ▶	Repair harness between ECM and harness connector M88.

TCM CIRCUIT CHECK

1	CHECK CONNECTOR
1. Turn ignition switch OFF. 2. Check following terminals and connector for damage, bend and loose connection. (Control module-side and harness-side) ● TCM ● Harness connector E106 ● Harness connector M88 **OK or NG**	
OK ▶	GO TO 2.
NG ▶	Repair terminal or connector.

2	CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect TCM connector.
2. Check resistance between TCM harness connector E123 terminals 6 (G/B) and 7 (W/R).



SEL604Y

6 (G/B) - 7 (W/R): Approx. 54 - 66Ω

OK or NG

OK	▶	Replace TCM.
NG	▶	Repair harness between TCM and harness connector M51.

COMBINATION METER CIRCUIT CHECK

1	CHECK CONNECTOR

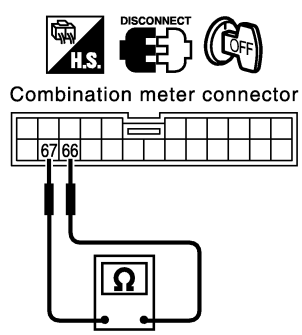
1. Turn ignition switch OFF.
2. Check terminals and connector of combination meter for damage, bend and loose connection. (Meter-side and harness-side)

OK or NG

OK	▶	GO TO 2.
NG	▶	Repair terminal or connector.

2	CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect combination meter connector.
2. Check resistance between combination meter harness connector M143 terminals 66 (G/B) and 67 (W/R).



SEL605Y

66 (G/B) - 67 (W/R): Approx. 108 -132Ω

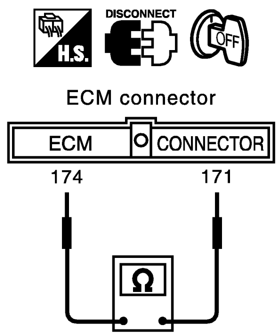
OK or NG

OK	▶	Replace combination meter.
NG	▶	Repair harness between combination meter and harness connector M88.

CAN COMMUNICATION CIRCUIT CHECK

1	CHECK CONNECTOR
1. Turn ignition switch OFF. 2. Check following terminals and connector for damage, bend and loose connection. (Control module-side, meter-side and harness-side) ● ECM ● TCM ● Combination meter ● Between ECM and TCM **OK or NG**	
OK ▶	GO TO 2.
NG ▶	Repair terminal or connector.

2	CHECK HARNESS FOR SHORT CIRCUIT
1. Disconnect ECM connector and harness connector F6. 2. Check continuity between ECM harness connector F39 terminals 174 (G/B) and 171 (W/R).	



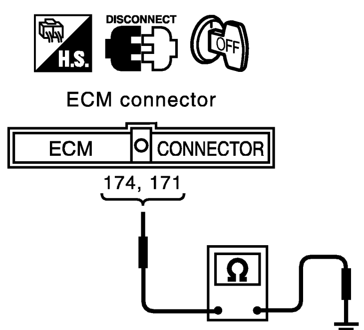
SEL603Y

174 (G/B) - 171 (W/R): Continuity should not exist.

OK or NG

OK ▶	GO TO 3.
NG ▶	Repair harness between ECM and harness connector F6.

3	CHECK HARNESS FOR SHORT CIRCUIT
Check continuity between ECM harness connector F39 terminals 174 (G/B), 171 (W/R) and ground.	



SEL606Y

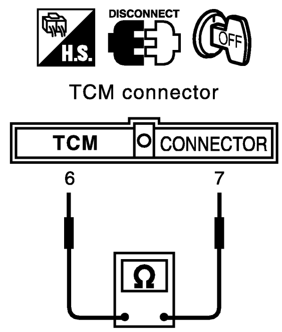
174 (G/B) - Ground: Continuity should not exist.
171 (W/R) - Ground: Continuity should not exist.

OK or NG

OK ▶	GO TO 4.
NG ▶	Repair harness between ECM and harness connector F6.

4	CHECK HARNESS FOR SHORT CIRCUIT

1. Disconnect TCM connector and harness connector E106.
2. Check continuity between TCM harness connector E123 terminals 6 (G/B) and 7 (W/R).



SEL604Y

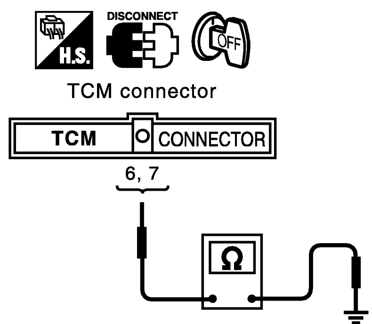
6 (G/B) - 7 (W/R): Continuity should not exist.

OK or NG

OK	▶	GO TO 5.
NG	▶	Repair harness between TCM and harness connector E106.

5	CHECK HARNESS FOR SHORT CIRCUIT

Check continuity between TCM harness connector E123 terminals 6 (G/B), 7 (W/R) and ground.

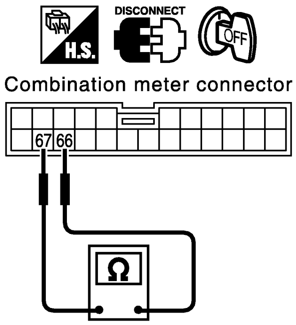


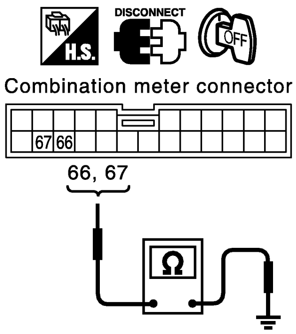
SEL607Y

6 (G/B) - Ground: Continuity should not exist.
7 (W/R) - Ground: Continuity should not exist.

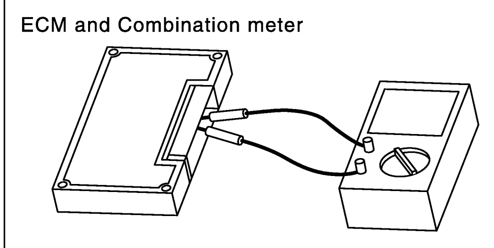
OK or NG

OK	▶	GO TO 6.
NG	▶	Repair harness between TCM and harness connector F106.

6	CHECK HARNESS FOR SHORT CIRCUIT
1. Disconnect combination meter connector. 2. Check continuity between combination meter harness connector M143 terminals 66 (G/B) and 67 (W/R).  SEL605Y **66 (G/B) - 67 (W/R): Continuity should not exist.** **OK or NG**	
OK ▶	GO TO 7.
NG ▶	● Repair harness between combination meter and harness connector M88. ● Repair harness between combination meter and harness connector M51.

7	CHECK HARNESS FOR SHORT CIRCUIT
Check continuity between combination meter harness connector M143 terminals 66 (G/B), 67 (W/R) and ground.  SEL608Y **66 (G/B) - Ground: Continuity should not exist.** **67 (W/R) - Ground: Continuity should not exist.** **OK or NG**	
OK ▶	GO TO 8.
NG ▶	● Repair harness between combination meter and harness connector M88. ● Repair harness between combination meter and harness connector M51.

8	ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION
Check components inspection. Refer to "ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION" (EL-346). **OK or NG**	
OK ▶	Reconnect all connectors to perform "SELF-DIAG RESULTS" and "DATA MONITOR" for "ENGINE" and "A/T" displayed on CONSULT-II. Refer to "DTC U1000 CAN COMMUNICATION LINE" (EC section) for "ENGINE" and "DTC U1000 CAN COMMUNICATION LINE" (AT section) for "A/T".
NG ▶	Replace ECM and/or combination meter.



SEL609Y

Component Inspection

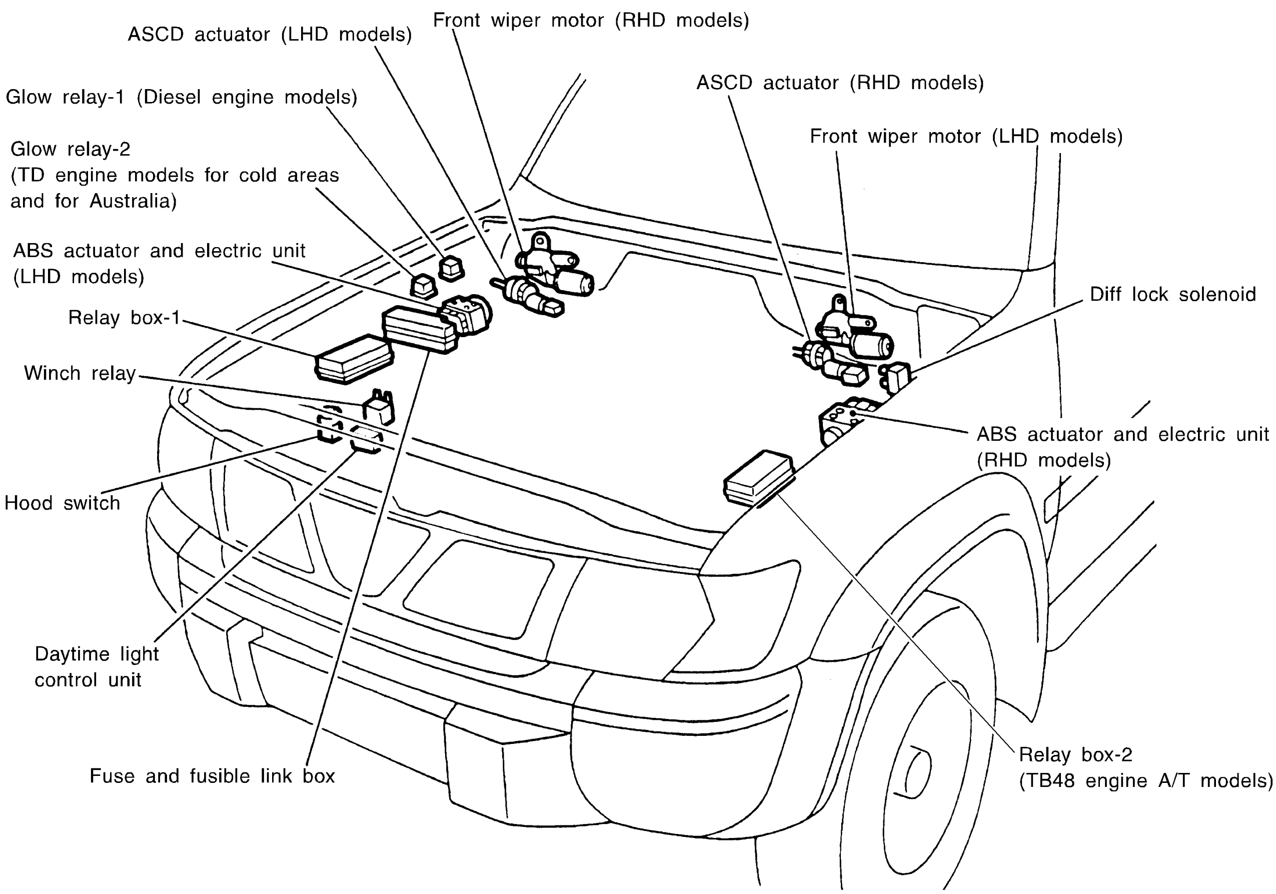
ECM/COMBINATION METER INTERNAL CIRCUIT INSPECTION

- Remove ECM and combination meter from vehicle.
- Check resistance between ECM terminals 174 and 171.
- Check resistance between combination meter terminals 66 and 67.

Unit	Terminal	Resistance value (Ω)
ECM	174 - 171	Approx. 108 - 132
Combination meter	66 - 67	

NOTE

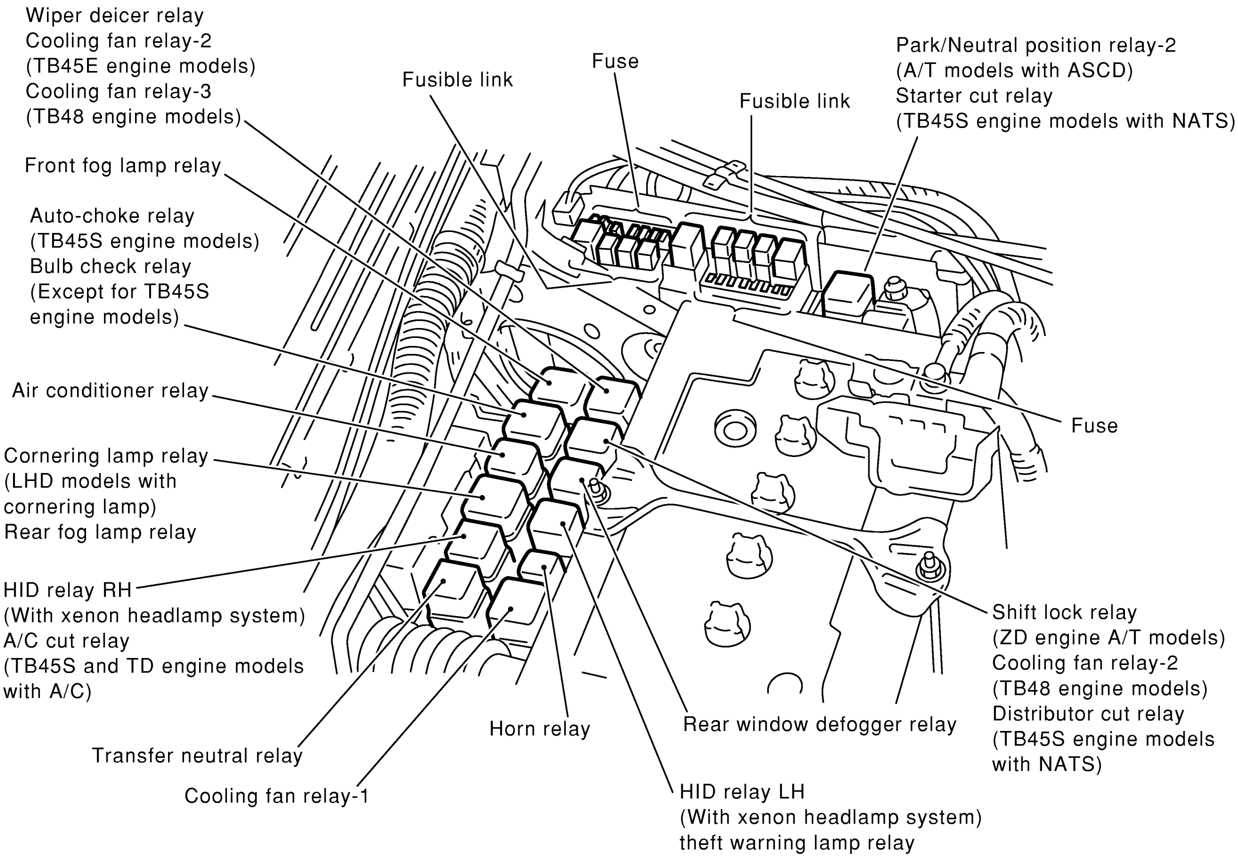
Engine Compartment



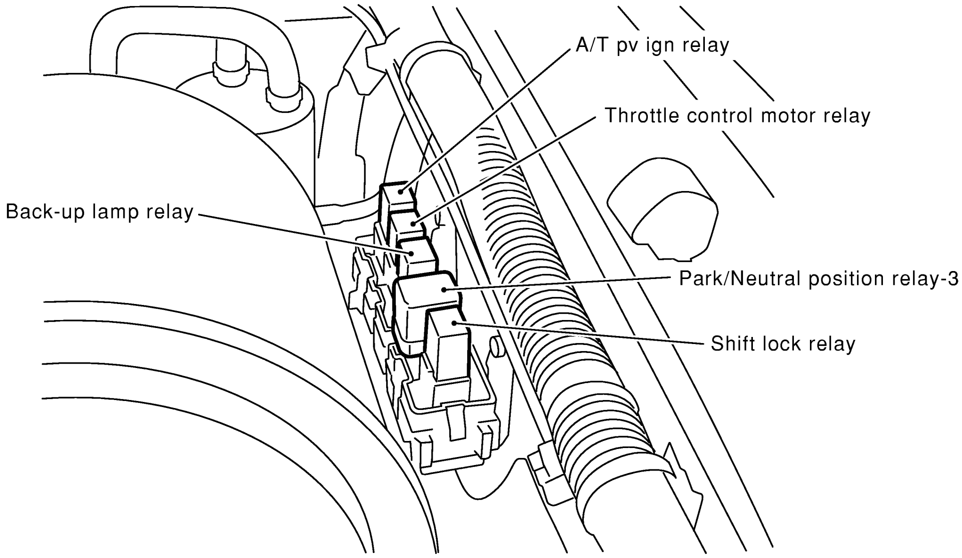
CEL313M

Engine Compartment (Cont'd)

Relay box-1 and Fuse and fusible link box

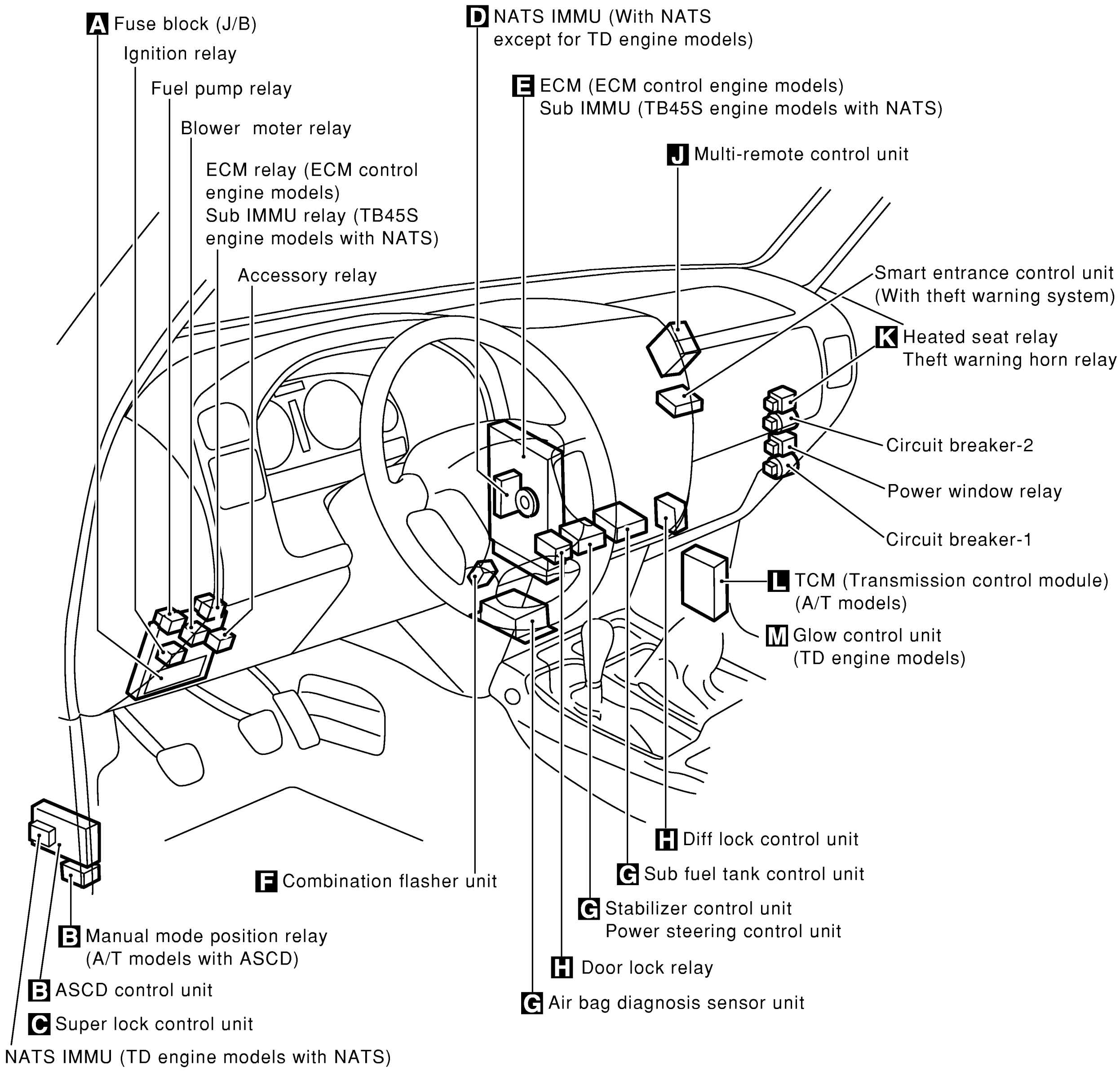


Relay box-2 (TB48 engine A/T models)

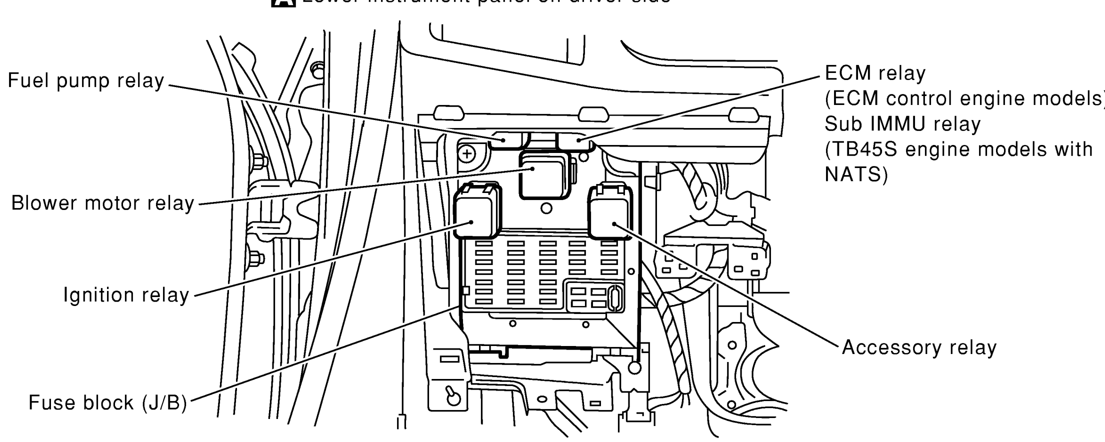


CEL314M

Passenger Compartment — LHD Models



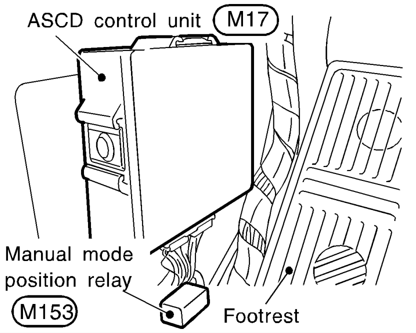
A Lower instrument panel on driver side



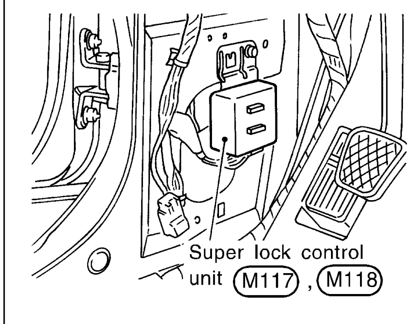
CEL315M

Passenger Compartment — LHD Models (Cont'd)

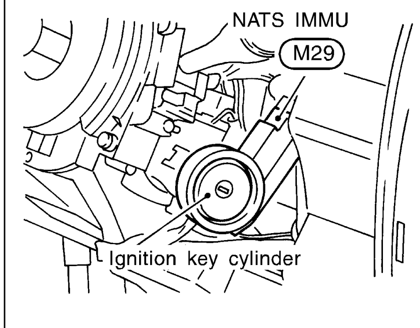
B Driver side view with dash side lower finisher removed



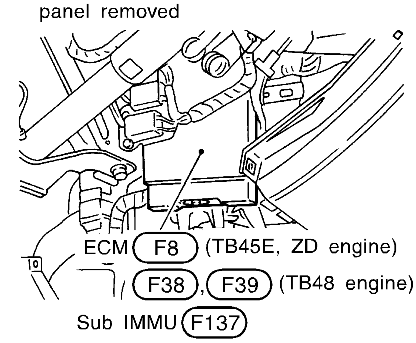
C Driver side view with dash side lower finisher removed



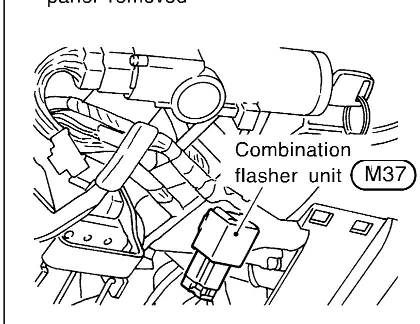
D With NATS except for TD engine models



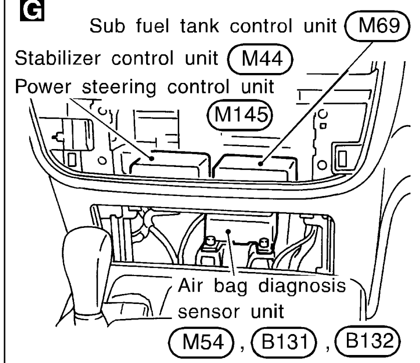
E Driver side view with lower instrument panel removed



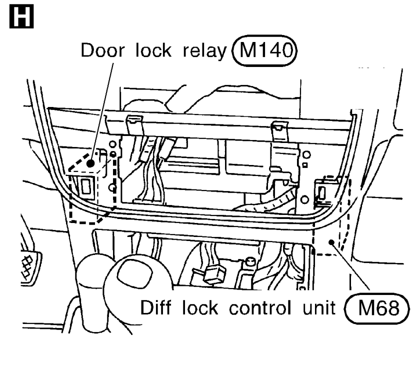
F Driver side view lower instrument panel removed



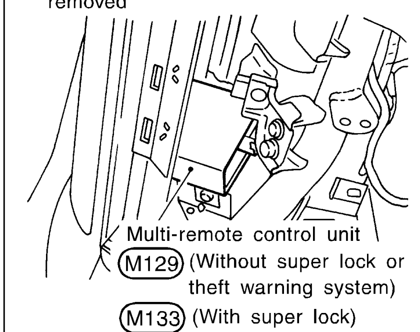
G



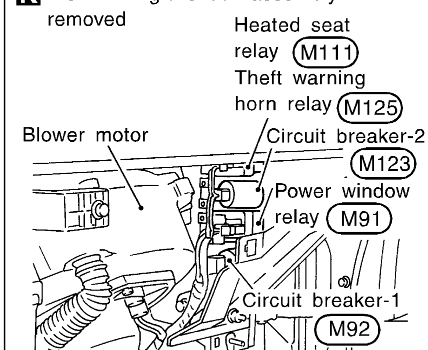
H



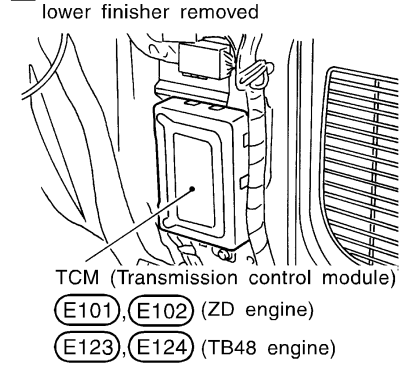
J View with glove box assembly removed



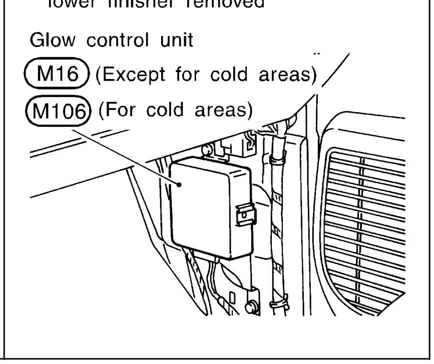
K View with glove box assembly removed



L Passenger side view with dash side lower finisher removed

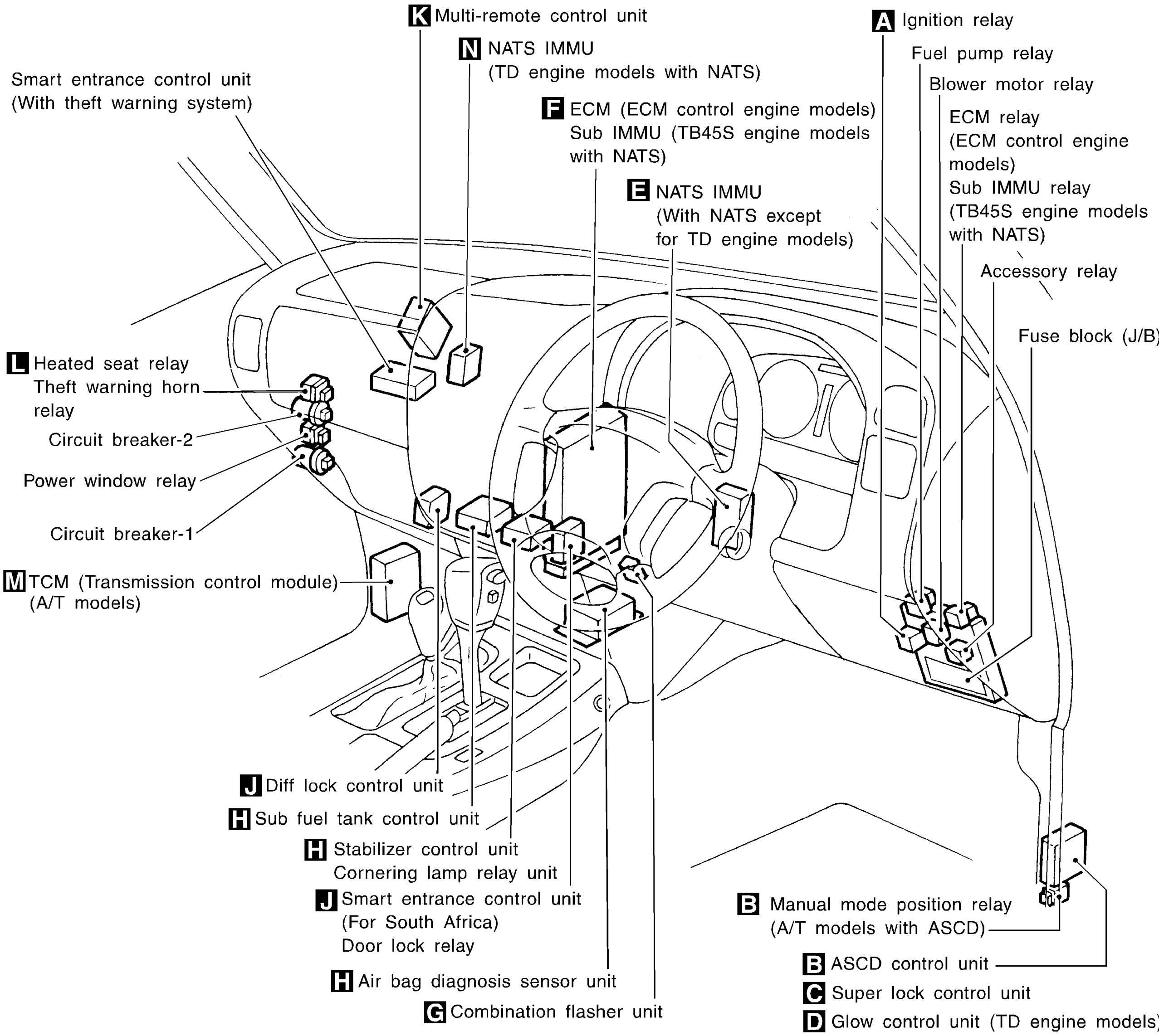


M Passenger side view with dash side lower finisher removed

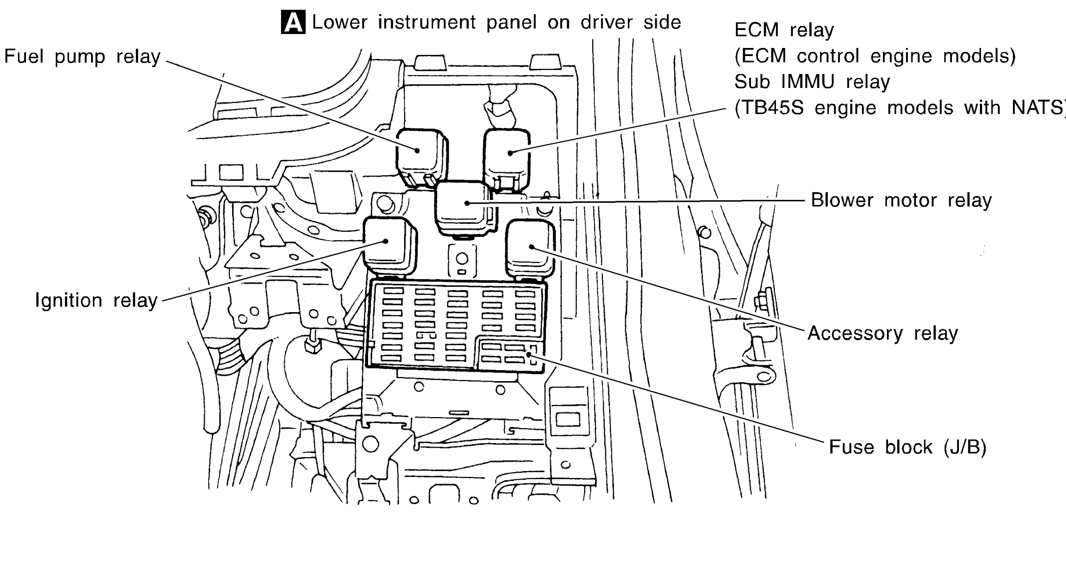


CEL316M

Passenger Compartment — RHD Models

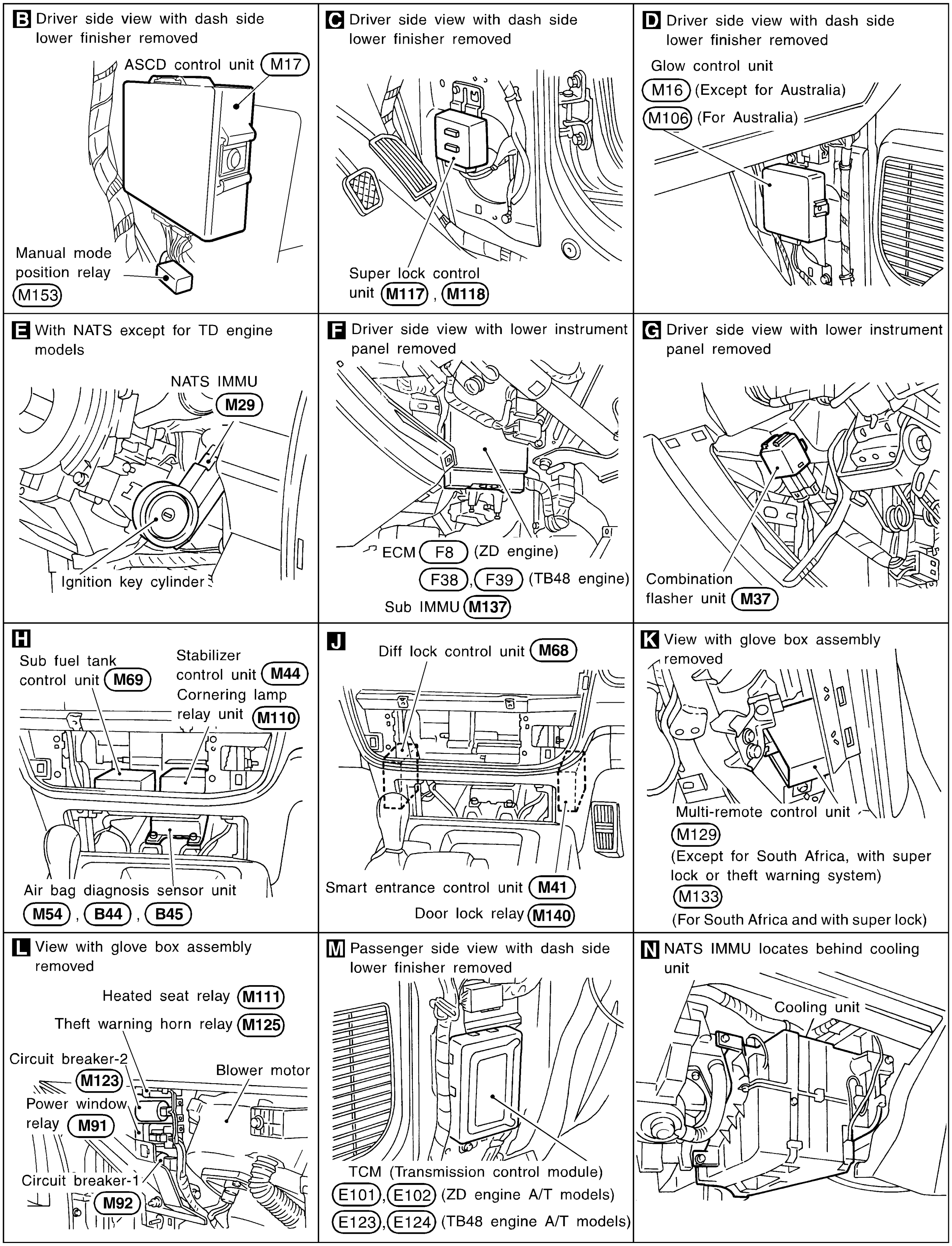


A Lower instrument panel on driver side



CEL317M

Passenger Compartment — RHD Models (Cont'd)



CEL318M

NOTE

How to Read Harness Layout

Example:

G2 (E1) B/6 : ASCD ACTUATOR

- G2: Grid reference
- E1: Connector number
- B/6: Connector color / Cavity

The following Harness Layouts use a map style grid to help locate connectors on the drawings:

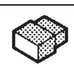
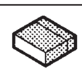
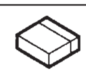
- Main Harness
- Engine Room Harness (Engine Compartment)

To use the grid reference

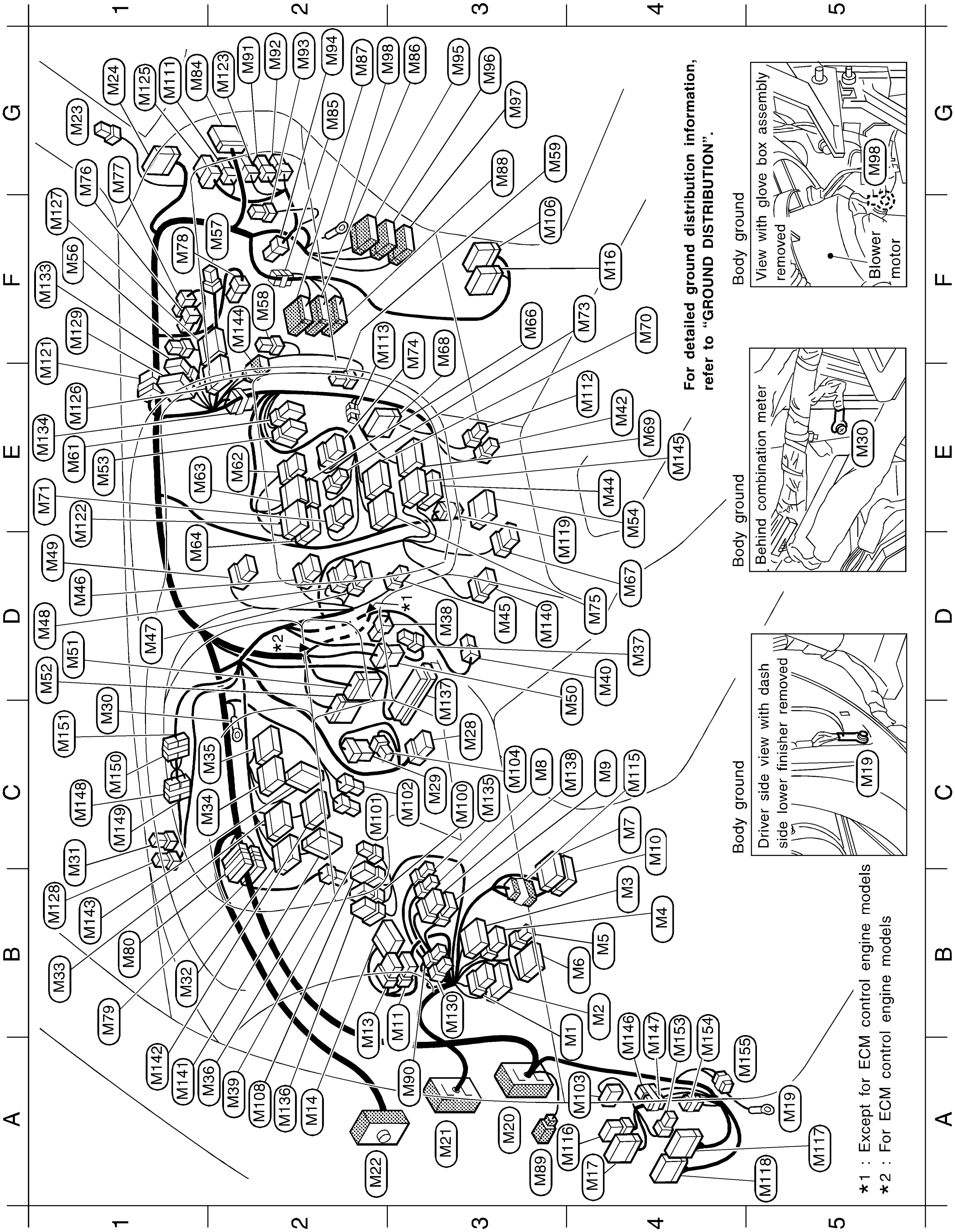
1) Find the desired connector number on the connector list.
2) Find the grid reference.
3) On the drawing, find the crossing of the grid reference letter column and number row.
4) Find the connector number in the crossing zone.
5) Follow the line (if used) to the connector.

CONNECTOR SYMBOL

Main symbols of connector (in Harness Layout) are indicated in the below.

Connector type	Water proof type		Standard type	
	Male	Female	Male	Female
● Cavity: Less than 4 ● Relay connector				
● Cavity: From 5 to 8				
● Cavity: More than 9	—	—		
● Ground terminal etc.	—			

Main Harness/LHD Models



CEL319M

Main Harness/LHD Models (Cont'd)

Grid	Connector	Color/Pins	Description
B4	M1	W/8	Fuse block (J/B)
B4	M2	BR/16	Fuse block (J/B)
B4	M3	GY/16	Fuse block (J/B)
B4	M4	GY/8	Fuse block (J/B)
B4	M5	B/2	Fuse block (J/B)
B4	M6	W/12	Fuse block (J/B)
C4	M7	GY/14	Data link connector (With CONSULT)
C3	M8	L/4	ECM relay (TB45E engine models)
C4	M9	BR/6	ECM relay (ZD engine models)
C4	M10	W/16	Data link connector (With CONSULT-II)
B3	M11	W/8	Headlamp aiming switch
B2	M13	W/6	Heat up switch
A2	M14	W/10	Door mirror remote control switch
F4	M16	W/12	Glow control unit (TD engine models except for cold areas)
A4	M17	BR/24	ASCD control unit
A5	M19	—	Body ground
A3	M20	SMJ	To B19
A3	M21	SMJ	To E127
A2	M22	SMJ	To D1
G1	M23	W/3	Tweeter RH
G1	M24	W/10	To R1
C3	M28	Y/7	Spiral cable
C3	M29	W/8	NATS IMMU (With NATS except for TD engine models)
C1	M30	—	Body ground
C1	M31	W/2	Security indicator lamp (With NATS except for china and TB45S engine models with theft warning system)
B1	M32	W/10	Combination meter (For Europe)
B1	M33	BR/16	Combination meter (For Europe)
C1	M34	W/16	Combination meter (For Europe)
C1	M35	W/10	Combination meter (For Europe)
A1	M36	L/2	ASCD clutch switch (M/T models with ASCD)
D4	M37	B/3	Combination flasher unit
D3	M38	W/3	Mode door motor (With front auto A/C)
A1	M39	W/3	Illumination control switch
D4	M40	W/3	Air mix door motor (With front auto A/C)
E4	M42	B/2	Cigarette lighter
E4	M44	W/12	Stabilizer control unit
D3	M45	W/2	In-vehicle sensor (With front auto A/C)
D1	M46	W/6	Rear window defogger switch
D1	M47	BR/8	Headlamp wiper switch
D1	M48	BR/6	Sub fuel tank switch
D1	M49	W/8	Hazard switch
D3	M50	W/6	To F5
D1	M51	W/16	To F6
D1	M52	W/24	To F7
E1	M53	W/8	Rear heater front switch
E4	M54	Y/20	Air bag diagnosis sensor unit
F1	M56	B/2	Sunload sensor (With front auto A/C)
F2	M57	Y/2	Air bag module (Passenger side) (With dual air bag system)
F2	M58	W/2	Intake sensor (With front auto A/C)
G3	M59	W/3	Thermo control amp.
E1	M61	W/8	Rear cooler front switch
E2	M62	W/6	Radio and cassette player (Except for Europe)
E1	M63	W/10	Radio or radio and cassette player (Except for Europe)
D1	M64	W/12	Radio and cassette player (With CD auto changer)
F3	M66	W/16	Radio and cassette player (For Europe)
D4	M67	BR/8	Diff lock switch
F3	M68	B/12	Diff lock control unit
E4	M69	BR/16	Sub fuel tank control unit
F4	M70	GY/16	A/C auto amp. (With front auto A/C)
E1	M71	W/6	Fan switch (With front manual A/C)
F4	M73	W/3	Fan switch illumination (With front manual A/C)
F3	M74	W/8	Recirculation switch (With front manual A/C)
D4	M75	GY/20	A/C auto amp. (With front auto A/C)
G1	M76	W/4	Intake door motor (With front auto A/C)
G1	M77	W/4	Intake door motor (With front manual A/C)
F1	M78	W/4	Fan control amp. (With front auto A/C)
B1	M79	W/20	Joint connector-1
B1	M80	B/12	Joint connector-2
G1	M84	W/18	To D21
G2	M85	W/2	Diode (With front manual A/C)
G3	M86	W/12	To E104
G2	M87	W/16	To E105
G3	M88	W/24	To E106
A3	M89	BR/1	To B58 (For Europe with rear cooler)
A3	M90	L/4	Fuel pump relay (TB48 and TB45E engine models)
G2	M91	L/4	Power window relay
G2	M92	W/2	Circuit breaker-1
G2	M93	BR/4	Blower resistor (With front manual A/C)
G2	M94	W/2	Blower motor
G3	M95	W/10	To B104
G3	M96	W/16	To B103
G3	M97	W/12	To B102

CEL320M

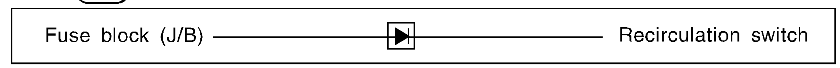
GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Main Harness/LHD Models (Cont'd)

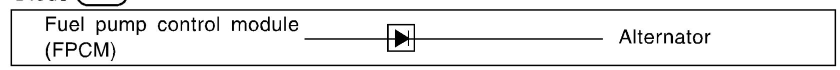
G3 (M98) — : Body ground
C3 (M100) L/6 : Stabilizer switch
C2 (M101) B/2 : Stop lamp switch
C3 (M102) L/2 : ASCD brake switch
A4 (M103) W/12 : NATS IMMU } (TD engine models with NATS)
C3 (M104) W/4 : NATS antenna amp. } (TD engine models with NATS)
F3 (M106) W/16 : Glow control unit (TD engine models for cold areas)
A2 (M108) B/6 : Front fog lamp switch
G1 (M111) L/4 : Heated seat relay
E4 (M112) B/1 : Cigarette lighter illumination
F2 (M113) W/2 : Resistor (With diff lock)
C4 (M115) W/8 : Check connector } (TB45S engine models)
A4 (M116) W/6 : Fuel pump control module (FPCM) } (TB45S engine models)
A5 (M117) GY/16 : Super lock control unit
A5 (M118) GY/20 : Super lock control unit
D3 (M119) W/3 : Jumping connector
E1 (M121) BR/8 : Not used
E1 (M122) W/16 : Radio and cassette player (With audio steering wheel switch)
G2 (M123) W/2 : Circuit breaker-2
G1 (M125) BR/6 : Theft warning horn relay
E1 (M126) W/18 : Smart entrance control unit } (With theft warning system)
F1 (M127) B/24 : Smart entrance control unit } (With theft warning system)
B1 (M128) BR/2 : Security indecator lamp (For china and TB45S engine models with theft warning system)
F1 (M129) W/16 : Multi-remote control unit (Without super lock or theft warning system)
B3 (M130) L/4 : Fuel pump relay (TB45S engine models)
F1 (M133) BR/8 : Multi-remote control unit } (With super lock)
E1 (M134) W/6 : Anti-theft unit (Opt) } (With super lock)
C3 (M135) L/4 : Sub IMMU relay (TB45S engine models with NATS)
A2 (M136) W/6 : Door lock and unlock switch
C3 (M137) SMJ : Sub IMMU (TB45S engine models with NATS)
C4 (M138) BR/6 : ECM Relay (TB48 engine models)
D3 (M140) W/6 : Door lock relay
A1 (M141) W/24 : Combination meter } (Except for Europe)
A1 (M142) BR/20 : Combination meter } (Except for Europe)
B1 (M143) BR/24 : Combination meter } (Except for Europe)
F2 (M144) BR/2 : Not used
E4 (M145) B/12 : Power steering control unit
A4 (M146) W/2 : Diode } (TB45S engine models)
A4 (M147) W/2 : Diode } (TB45S engine models)

C1 (M148) W/2 : Resistor } (TD engine models with theft warning system)
C1 (M149) W/2 : Resistor } (TD engine models with theft warning system)
C1 (M150) W/2 : Resistor } (TD engine models with theft warning system)
C1 (M151) W/2 : Resistor } (TD engine models with theft warning system)
A4 (M153) L/4 : Manual mode position relay } (A/T models with ASCD)
A4 (M154) W/2 : Diode } (A/T models with ASCD)
A4 (M155) W/2 : Diode (TB48 engine A/T models)

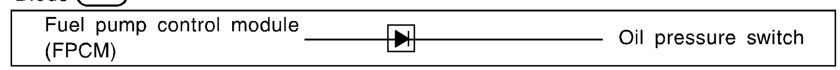
Diode (M85)



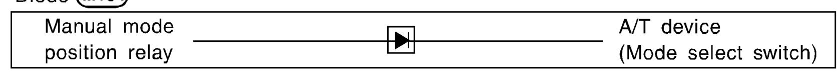
Diode (M146)



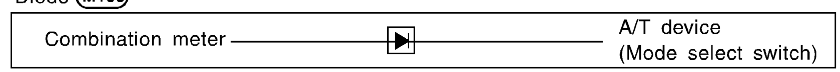
Diode (M147)



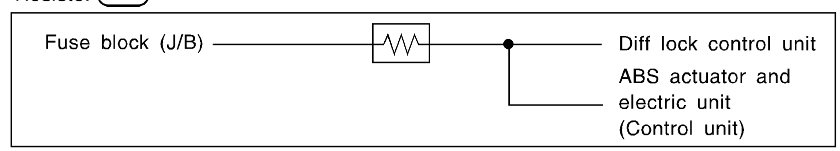
Diode (M154)



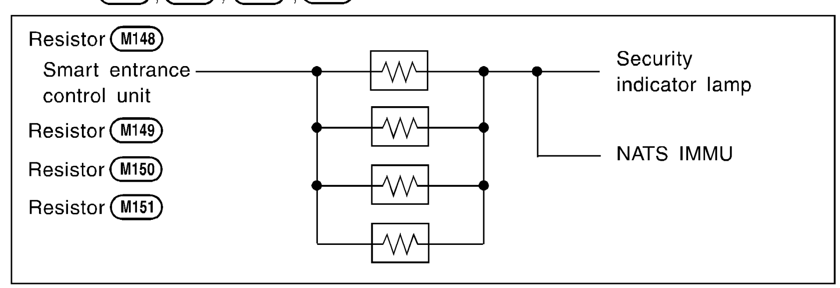
Diode (M155)



Resistor (M113)



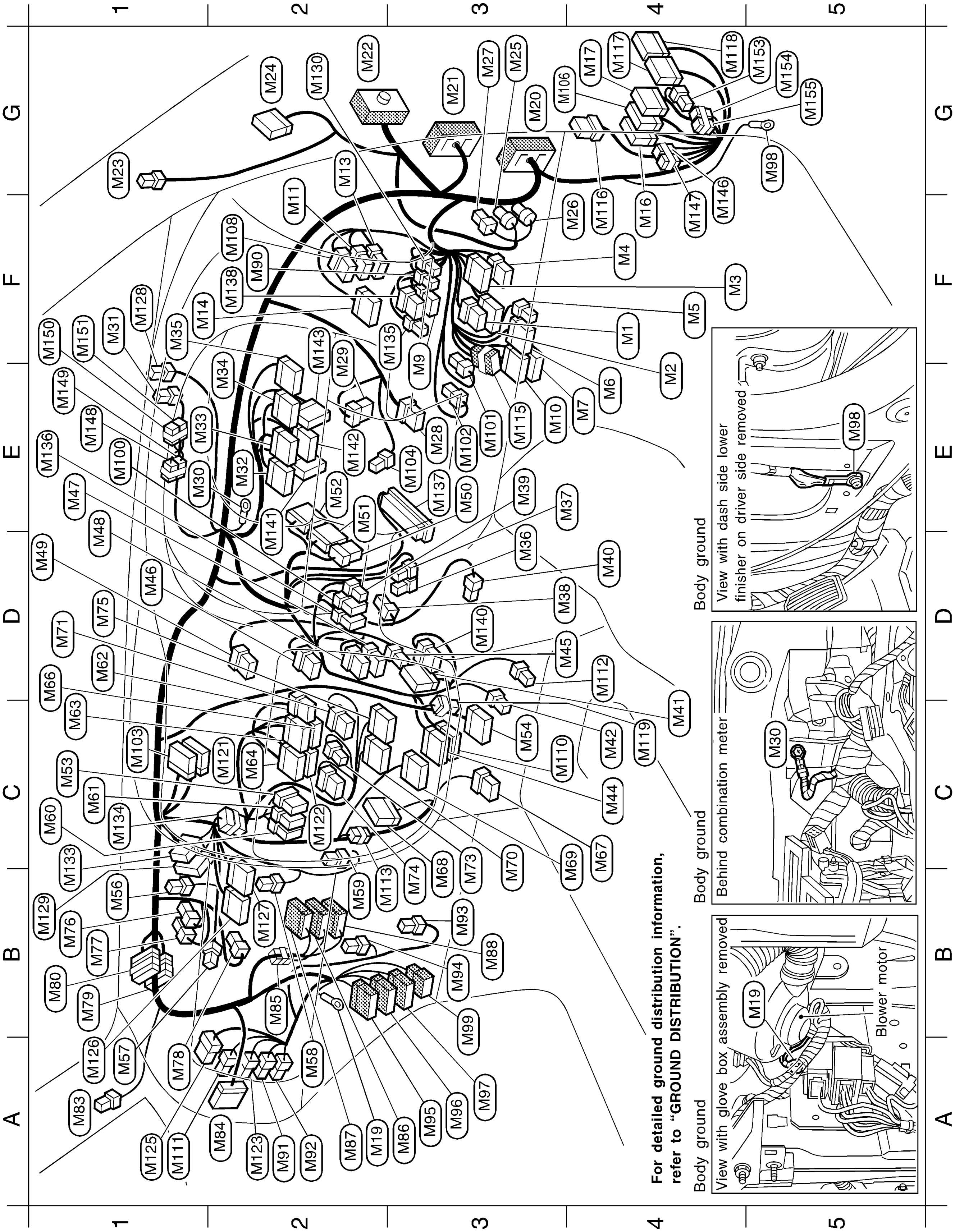
Resistor (M148), (M149), (M150), (M151)



CEL321M

NOTE

Main Harness/RHD Models



CEL322M

Main Harness/RHD Models (Cont'd)

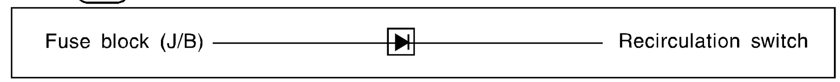
Grid	Connector	Color/Pins	Description
F4	M1	W/8	Fuse block (J/B)
E4	M2	BR/16	Fuse block (J/B)
F4	M3	GY/16	Fuse block (J/B)
F4	M4	GY/8	Fuse block (J/B)
F4	M5	B/2	Fuse block (J/B)
E4	M6	W/12	Fuse block (J/B)
E3	M7	GY/14	Data link connector (With CONSULT)
G2	M9	BR/6	ECM relay (ZD engine models)
E4	M10	W/16	Data link connector (With CONSULT-II)
D4	M11	W/8	Headlamp aiming switch
G2	M13	W/6	Heat up switch
F1	M14	W/10	Door mirror remote control switch
G4	M16	W/12	Glow control unit (TD engine models except for Australia)
G4	M17	BR/24	ASCD control unit
A2	M19	—	Body ground
G3	M20	SMJ	To B19
G3	M21	SMJ	To E127
G2	M22	SMJ	To D1
G1	M23	W/3	Tweeter RH
G2	M24	W/10	To R1
G3	M25	BR/3	Accelerator position sensor
F5	M26	GY/3	Accelerator position switch
G3	M27	W/3	Accelerator switch (F/C)
E3	M28	Y/7	Spiral cable
E2	M29	W/8	NATS IMMU (With NATS except for TD engine models)
E2	M30	—	Body ground
E1	M31	W/2	Security indicator lamp (With NATS except for TB45S engine models with theft warning system)
E1	M32	W/10	Combination meter (For Europe)
E1	M33	BR/16	Combination meter (For Europe)
E2	M34	W/16	Combination meter (For Europe)
E1	M35	W/10	Combination meter (For Europe)
D3	M36	L/2	ASCD clutch switch (M/T models with ASCD)
E3	M37	B/3	Combination flasher unit
D3	M38	W/3	Mode door motor (With front auto A/C)
E3	M39	W/3	Illumination control switch
D4	M40	W/3	Air mix door motor (With front auto A/C)
C4	M41	W/18	Smart entrance control unit (For South Africa)
C4	M42	B/2	Cigarette lighter
C4	M44	W/12	Stabilizer control unit
D4	M45	W/2	In-vehicle sensor (With front auto A/C)
D1	M46	W/6	Rear window defogger switch
E1	M47	BR/8	Headlamp wiper switch
D1	M48	BR/6	Sub fuel tank switch
D1	M49	W/8	Hazard switch
E2	M50	W/6	To F5
D2	M51	W/16	To F6
E2	M52	W/24	To F7
C1	M53	W/8	Rear heater front switch
C3	M54	Y/20	Air bag diagnosis sensor unit
B1	M56	B/2	Sunload sensor (With front auto A/C)
A1	M57	Y/2	Air bag module (Passenger side) (With dual air bag system)
B2	M58	W/2	Intake sensor (With front auto A/C)
B2	M59	W/3	Thermo control amp.
C2	M60	L/6	Power antenna switch
C1	M61	W/8	Rear cooler front switch
D1	M62	W/6	Radio and cassette player (Except for Europe)
C1	M63	W/10	Radio or radio and cassette player (Except for Europe)
C2	M64	W/12	Radio and cassette player (With CD auto changer)
D1	M66	W/16	Radio and cassette player (For Europe)
C4	M67	BR/8	Diff lock switch
B3	M68	B/12	Diff lock control unit
C4	M69	BR/16	Sub fuel tank control unit
C3	M70	GY/16	A/C auto amp. (With front auto A/C)
D1	M71	W/6	Fan switch (With front manual A/C)
C3	M73	W/3	Fan switch illumination (With front manual A/C)
B3	M74	W/8	Recirculation switch (With front manual A/C)
D1	M75	GY/20	A/C auto amp. (With front auto A/C)
B1	M76	W/4	Intake door motor (With front auto A/C)
B1	M77	W/4	Intake door motor (With front manual A/C)
A1	M78	W/4	Fan control amp. (With front auto A/C)
B1	M79	W/20	Joint connector-1
B1	M80	B/12	Joint connector-2
A1	M83	W/3	Tweeter LH
A2	M84	W/18	To D21
A1	M85	W/2	Diode (With front manual A/C)
A3	M86	BR/16	To E104
A2	M87	W/16	To E105
B3	M88	W/24	To E106
F2	M90	L/4	Fuel pump relay (TB48 engine models)
A2	M91	L/4	Power window relay
A2	M92	W/2	Circuit breaker-1
B3	M93	BR/4	Blower resistor (With front manual A/C)
B3	M94	W/2	Blower motor
A3	M95	W/16	To B101
A3	M96	W/20	To B102
A3	M97	W/16	To B103
G5	M98	–	Body ground

CEL323M

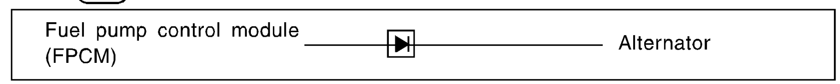
Main Harness/RHD Models (Cont'd)

Grid	Connector	Type		Description
B3	M99	W/6	:	To B104
E1	M100	L/6	:	Stabilizer switch
E3	M101	B/2	:	Stop lamp switch
E3	M102	L/2	:	ASCD brake switch
C1	M103	W/12	:	NATS IMMU } (TD engine models with NATS)
E2	M104	W/4	:	NATS antenna amp. } (TD engine models with NATS)
G4	M106	W/16	:	Grow control unit (TD engine models for Australia)
F2	M108	B/6	:	Front fog lamp switch
C3	M110	W/10	:	Cornering lamp relay unit
A1	M111	L/4	:	Heated seat relay
D4	M112	B/1	:	Cigarette lighter illumination
B2	M113	W/2	:	Resistor (With diff lock)
E3	M115	W/8	:	Check connector } (TB45S engine models)
G4	M116	W/6	:	Fuel pump control module (FPCM) } (TB45S engine models)
G4	M117	GY/16	:	Super lock control unit
G4	M118	GY/20	:	Super lock control unit
C4	M119	W/3	:	Jumping connector
C2	M121	BR/8	:	Dongle unit
C2	M122	W/16	:	Radio and cassette player (With audio steering wheel switch)
A2	M123	W/2	:	Circuit breaker-2
A1	M125	BR/6	:	Theft warning horn relay
A1	M126	W/18	:	Smart entrance control unit } (With theft warning system)
B2	M127	B/24	:	Smart entrance control unit } (With theft warning system)
F1	M128	BR/2	:	Security indicator lamp (TB45S engine models with theft warning system)
B2	M129	W/16	:	Multi-remote control unit (Except for South Africa, with super lock or theft warning system)
G2	M130	L/4	:	Fuel pump relay (TB45S engine models)
B1	M133	BR/8	:	Multi-remote control unit (For South Africa and with super lock)
C1	M134	W/6	:	Anti-theft unit (Opt)
F3	M135	L/4	:	Sub IMMU relay (TB45S engine models with NATS)
E1	M136	W/6	:	Door lock and unlock switch
E3	M137	SMJ	:	Sub IMMU (TB45S engine models with NATS)
F2	M138	BR/6	:	ECM relay (TB48 engine models)
D3	M140	W/6	:	Door lock relay
E2	M141	W/24	:	Combination meter } (Except for Europe)
E2	M142	BR/20	:	Combination meter } (Except for Europe)
F2	M143	BR/24	:	Combination meter } (Except for Europe)
G4	M146	W/2	:	Diode } (TB45S engine models)
F4	M147	W/2	:	Diode } (TB45S engine models)
E1	M148	W/2	:	Resistor } (TD engine models with theft warning system)
E1	M149	W/2	:	Resistor } (TD engine models with theft warning system)
F1	M150	W/2	:	Resistor } (TD engine models with theft warning system)
F1	M151	W/2	:	Resistor } (TD engine models with theft warning system)
G5	M153	L/4	:	Manual mode position relay } (A/T models with ASCD)
G5	M154	W/2	:	Diode } (A/T models with ASCD)
G5	M155	W/2	:	Diode (TB48 engine A/T models)

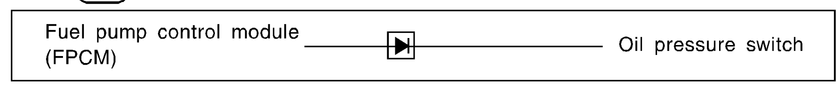
Diode M85



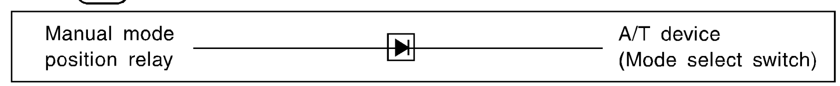
Diode M146



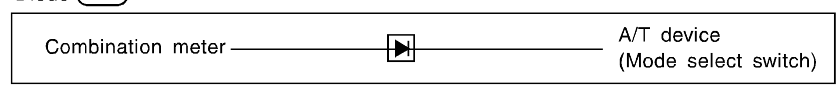
Diode M147



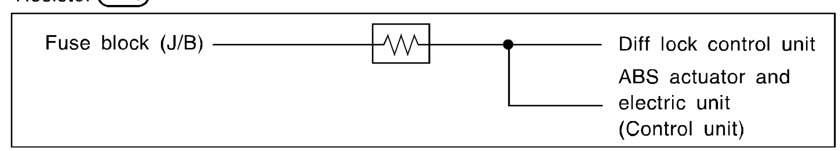
Diode M154



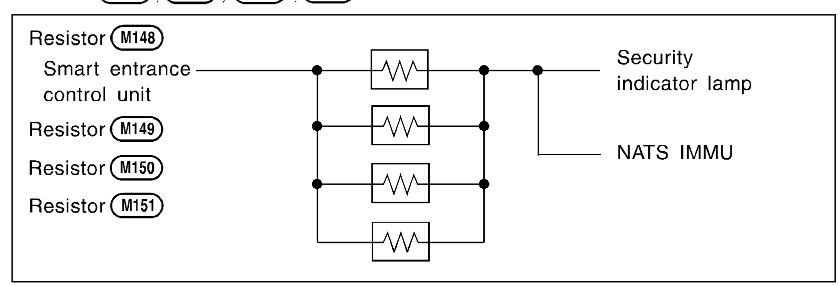
Diode M155



Resistor M113



Resistor M148, M149, M150, M151

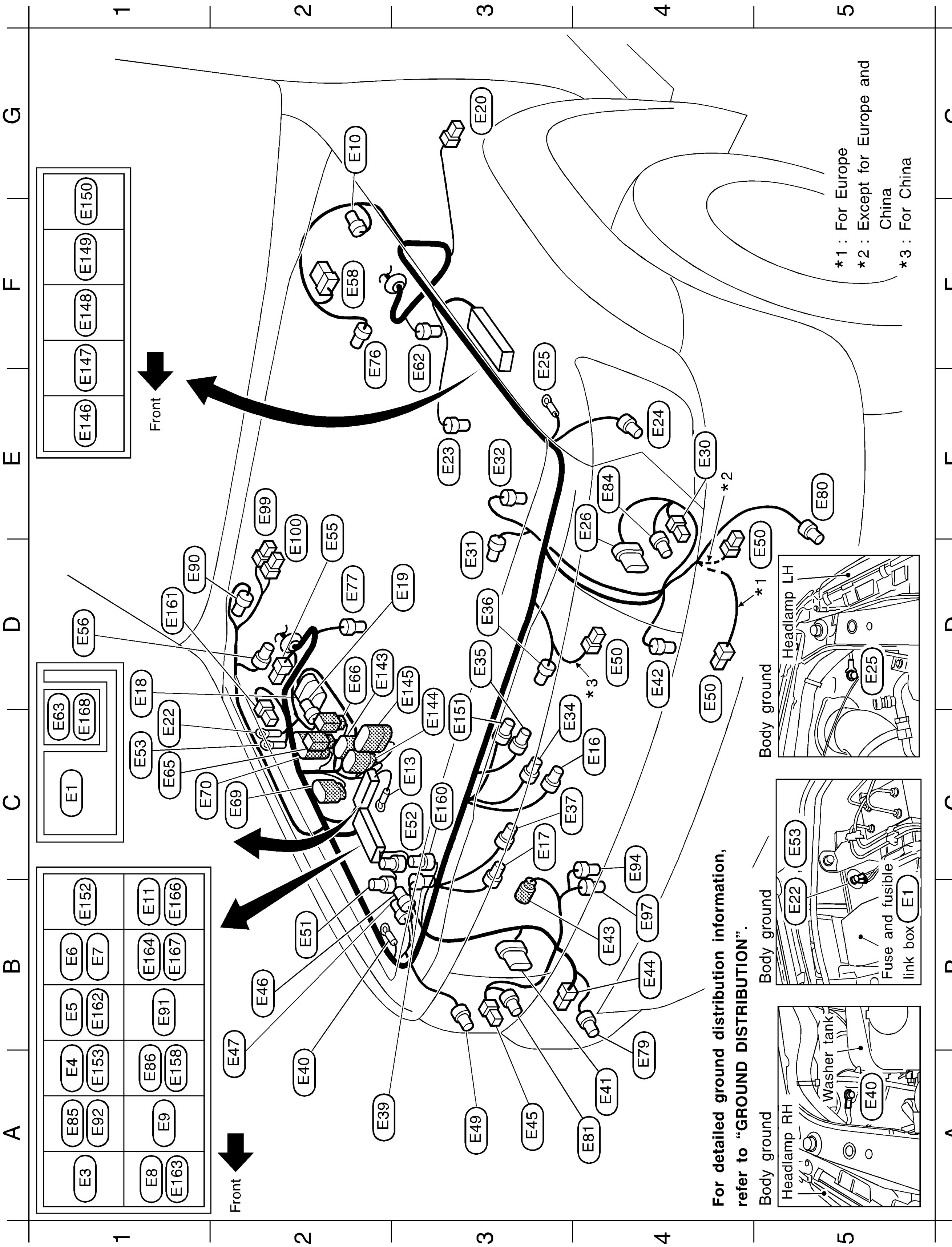


CEL324M

NOTE

Engine Room Harness/LHD Models

GASOLINE ENGINE MODELS



CEL325M

Engine Room Harness/LHD Models (Cont'd)

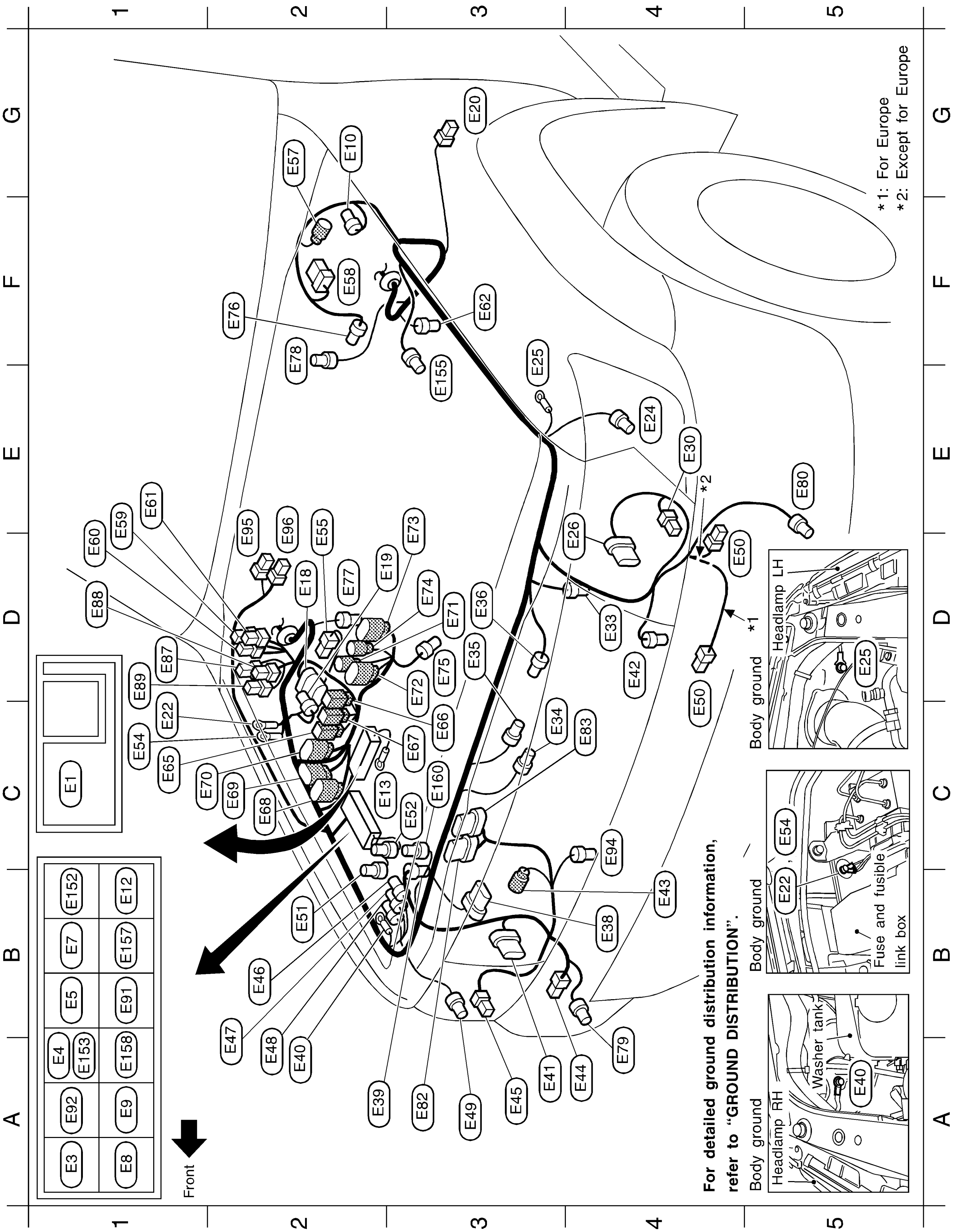
C1 E1 — : Fuse and fusible link box
A1 E3 GY/6 : Transfer neutral relay
A1 E4 L/4 : Cornering lamp relay
B1 E5 BR/6 : Air conditioner relay (Except for TB48 engine models)
B1 E6 GY/6 : Auto-choke relay (TB45S engine models)
B1 E7 L/4 : Bulb check relay (Except for TB45S engine models)
A1 E8 L/4 : Cooling fan relay-1 (Except for TB48 engine models)
A1 E9 W/3 : Horn relay
G2 E10 SB/4 : Diff lock solenoid
B1 E11 L/4 : Cooling fan relay-2 (TB45E engine models)
C3 E13 — : Battery (+)
C4 E16 B/2 : Ambient sensor (With front auto A/C for TB48 engine models)
C3 E17 GY/4 : Cooling fan motor-2 (TB48 engine models)
D1 E18 SMJ : ABS actuator and electric unit
D3 E19 GY/3 : Power antenna
G3 E20 B/2 : Side turn signal lamp LH
C1 E22 — : Body ground (With ABS)
E3 E23 GY/2 : Ignition coil (TB45S engine models)
E4 E24 SB/4 : Front combination lamp LH
E3 E25 — : Body ground
D4 E26 SB/6 : Headlamp aiming motor LH
E4 E30 B/3 : Headlamp LH (Without xenon headlamp system)
D3 E31 SB/4 : Distributor } (TB45S engine models)
E3 E32 B/1 : Compressor } (TB45S engine models)
C4 E34 B/2 : Ambient air temperature sensor (With compass and thermometer)
D3 E35 B/2 : Ambient sensor (With front auto A/C except for TB48 engine models)
D3 E36 GY/4 : Cooling fan motor-1
C4 E37 GY/2 : Cooling fan motor-2 (TB45E engine models)
A2 E39 B/2 : Dual-pressure switch
A2 E40 — : Body ground
A4 E41 SB/6 : Headlamp aiming motor RH
D4 E42 GY/2 : Engine coolant temperature switch-2 (TB45S engine models with A/C)
B4 E43 GY/2 : To E181 (With electrical winch)
B4 E44 B/1 : Horn low
A3 E45 B/3 : Headlamp RH (Without xenon headlamp system)
B2 E46 GY/2 : Front washer motor
A2 E47 BR/2 : Rear washer motor
A3 E49 SB/4 : Front combination lamp RH
D5 E50 B/1 : Horn high
B2 E51 BR/2 : Park/Neutral position relay-1 } (TB48 engine A/T models and TB45S engine models with NATS)
C3 E52 BR/2 : Park/Neutral position relay-1 } (TB48 engine A/T models and TB45S engine models with NATS)
C1 E53 — : Body ground
D2 E55 B/2 : Side turn signal lamp RH

D1 E56 GY/4 : ASCD pump
F2 E58 W/6 : Front wiper motor
F3 E62 BR/2 : Front wheel sensor LH (With ABS)
C1 E63 B/5 : Park/Neutral position relay-2 (A/T models with ASCD)
C1 E65 B/2 : To E204 (TB48 and TB45E engine models)
C3 E66 L/2 : To E203
C2 E69 GY/8 : To E202
C1 E70 GY/10 : To E201
E2 E76 GY/2 : Brake fluid level switch
D2 E77 GY/2 : Front wheel sensor RH (With ABS)
B4 E79 BR/2 : Front fog lamp RH
E5 E80 BR/2 : Front fog lamp LH
A3 E81 GY/3 : Headlamp RH } (With xenon headlamp system)
E4 E84 GY/3 : Headlamp LH } (With xenon headlamp system)
A1 E85 L/4 : HID relay RH } (With xenon headlamp system)
A1 E86 L/4 : HID relay LH } (With xenon headlamp system)
D1 E90 GY/2 : Cool box solenoid valve (For the Middle East TB48 and TB45E engine models with cool box)
B1 E91 BR/6 : Rear window defogger relay
A1 E92 B/5 : A/C cut relay } (TB45S engine models with A/C)
B4 E94 GY/2 : Engine coolant temperature switch-1 } (TB45S engine models with A/C)
B4 E97 GY/2 : Engine coolant temperature switch (Rear cooler) (TB45E engine models with rear cooler)
D2 E99 B/1 : ISC-FI POT control solenoid valve } (TB45S engine models with A/C)
D2 E100 B/1 : ISC-FI POT control solenoid valve } (TB45S engine models with A/C)
D3 E143 GY/8 : To E233 } (A/T models)
C3 E144 BR/8 : To E234 } (A/T models)
C3 E145 GY/10 : To E236 } (A/T models)
E1 E146 B/5 : Shift lock relay } (A/T models)
E1 E147 BR/6 : Park/Neutral position relay-3 } (A/T models)
F1 E148 L/4 : Throttle control motor relay } (A/T models)
F1 E149 L/4 : Back-up lamp relay } (A/T models)
F1 E150 L/4 : A/T pv ign relay } (A/T models)
C3 E151 BR/2 : Ambient air temperature switch (TB48 engine models with front manual A/C and TB45E engine models with rear cooler)
B1 E152 L/4 : Front fog lamp relay
A1 E153 L/4 : Rear fog lamp relay
A1 E158 BR/6 : Theft warning lamp relay
C3 E160 GY/2 : Hood switch
D1 E161 B/1 : Theft warning horn
B1 E162 L/4 : Air conditioner relay } (TB48 engine models)
A1 E163 BR/6 : Cooling fan relay-1 } (TB48 engine models)
B1 E164 BR/6 : Cooling fan relay-2 } (TB48 engine models)
B1 E166 BR/6 : Cooling fan relay-3 } (TB48 engine models)
B1 E167 L/4 : Distributor cut relay } (TB45S engine models with NATS)
C1 E168 B/5 : Starter cut relay } (TB45S engine models with NATS)

CEL326M

Engine Room Harness/LHD Models (Cont'd)

DIESEL ENGINE MODELS



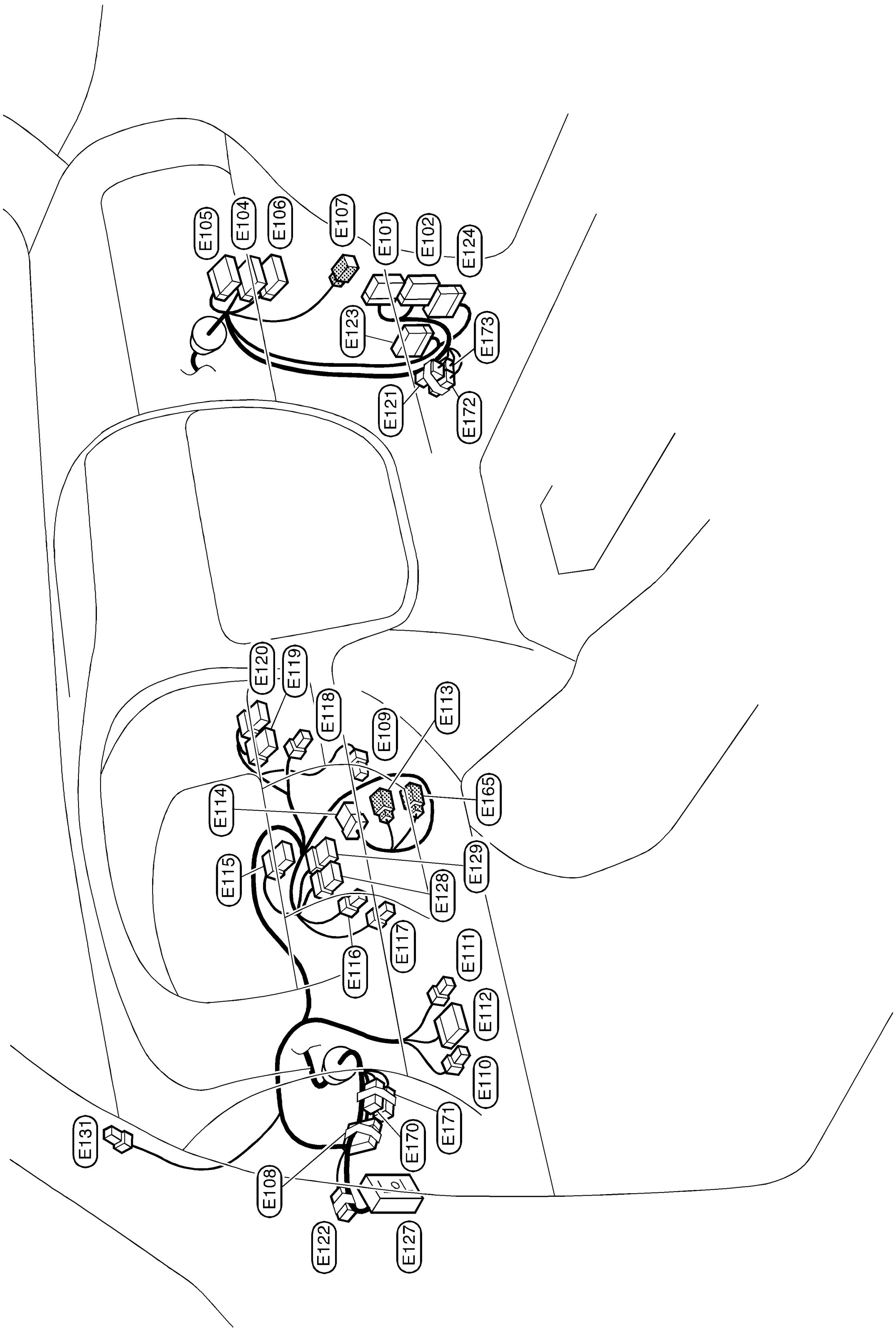
CEL327M

C1 E1 — : Fuse and fusible link box
A1 E3 GY/6 : Transfer neutral relay
A1 E4 L/4 : Cornering lamp relay
B1 E5 BR/6 : Air conditioner relay
B1 E7 L/4 : Bulb check relay
A1 E8 L/4 : Cooling fan relay-1
A1 E9 W/3 : Horn relay
G2 E10 SB/4 : Diff lock solenoid
B1 E12 L/4 : Wiper deicer relay
C2 E13 — : Battery (+)
D2 E18 SMJ : ABS actuator and electric unit
D3 E19 GY/3 : Power antenna
G3 E20 B/2 : Side turn signal lamp LH
C1 E22 — : Body ground (With ABS)
E4 E24 SB/4 : Front combination lamp LH
F3 E25 — : Body ground
D4 E26 SB/6 : Headlamp aiming motor LH
E4 E30 B/3 : Headlamp LH
D4 E33 GY/4 : Headlamp wiper motor LH
C3 E34 B/2 : Ambient air temperature sensor (With compass and thermometer)
D3 E35 B/2 : Ambient sensor (With front auto A/C)
D3 E36 GY/4 : Cooling fan motor-1
B4 E38 GY/6 : Headlamp wiper motor RH
A2 E39 B/2 : Dual-pressure switch
A2 E40 — : Body ground
A4 E41 SB/6 : Headlamp aiming motor RH
D4 E42 GY/2 : Engine coolant temperature switch-2 (TD engine models with A/C)
B4 E43 GY/2 : To E181 (With electrical winch)
B4 E44 B/1 : Horn low
A3 E45 B/3 : Headlamp RH
B2 E46 GY/2 : Front washer motor
A2 E47 BR/2 : Rear washer motor
A2 E48 GY/2 : Headlamp washer motor
A3 E49 SB/4 : Front combination lamp RH
D4 E50 B/1 : Horn high
B2 E51 BR/2 : Park/Neutral position relay-1 } (A/T models)
C3 E52 BR/2 : Park/Neutral position relay-1 } (A/T models)
C1 E54 — : Body ground
D2 E55 B/2 : Side turn signal lamp RH
G2 E57 B/2 : Wiper deicer
F2 E58 W/6 : Front wiper motor
E1 E59 G/2 : Grow relay-1
E1 E60 W/1 : Grow relay-1

E1 E61 W/1 : Grow relay-1
F3 E62 BR/2 : Front wheel sensor LH (With ABS)
C1 E65 B/2 : To E204
C3 E66 L/2 : To E203
C3 E67 R/2 : To E223
C2 E68 SB/8 : To E222 (TD engine models)
C2 E69 GY/8 : To E202
C2 E70 GY/10 : To E201
D3 E71 GY/3 : Revolution sensor } (A/T models)
D3 E72 BR/8 : A/T solenoid valve } (A/T models)
D3 E73 GY/8 : Park/Neutral position switch } (A/T models)
D3 E74 GY/2 : Park/Neutral position switch } (A/T models)
D3 E75 BR/2 : Fuel filter switch
F2 E76 GY/2 : Brake fluid level switch
D2 E77 GY/2 : Front wheel sensor RH (With ABS)
F2 E78 GY/2 : Dropping resistor (A/T models)
C4 E79 BR/2 : Front fog lamp RH
D4 E80 BR/2 : Front fog lamp LH
A3 E82 GY/8 : Daytime light control unit
C4 E83 GY/6 : Daytime light control unit
D1 E87 G/2 : Grow relay-2 } (TD engine models for cold areas)
D1 E88 W/1 : Grow relay-2 } (TD engine models for cold areas)
D1 E89 W/1 : Grow relay-2 } (TD engine models for cold areas)
B1 E91 BR/6 : Rear window defogger relay
A1 E92 B/5 : A/C cut relay } (TD engine models with A/C)
C4 E94 GY/2 : Engine coolant temperature switch-1 } (TD engine models with A/C)
D2 E95 B/1 : IACV-FICD solenoid valve } (TD engine models with A/C)
D2 E96 B/1 : IACV-FICD solenoid valve } (TD engine models with A/C)
B1 E152 L/4 : Front fog lamp relay
A1 E153 L/4 : Rear fog lamp relay
E3 E155 B/2 : Exhaust gas control valve control solenoid valve (ZD engine models)
B1 E157 B/5 : Shift lock relay (A/T models)
A1 E158 BR/6 : Theft warning lamp relay
C3 E160 GY/2 : Hood switch

CEL328M

PASSENGER COMPARTMENT

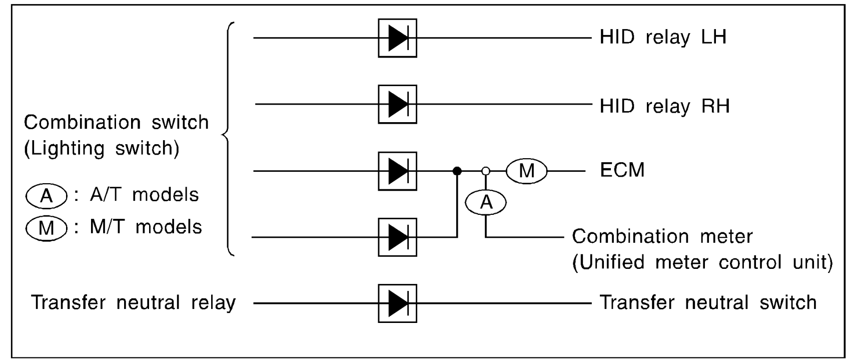


CEL329M

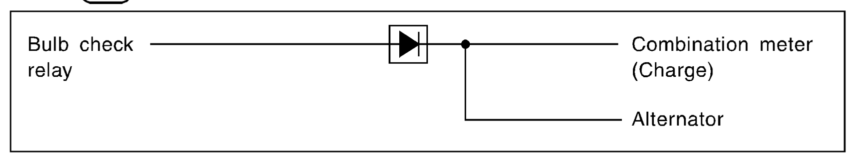
Engine Room Harness/LHD Models (Cont'd)

Connector	Color/Pins		Description
E101	W/24	:	TCM (Transmission control module) (ZD engine A/T models)
E102	GY/24	:	TCM (Transmission control module) (ZD engine A/T models)
E104	W/12	:	To M86
E105	W/16	:	To M87
E106	W/24	:	To M88
E107	W/2	:	To B101
E108	L/10	:	Diode (TB48 engine models)
E109	B/1	:	Horn switch (Without air bag)
E110	B/2	:	Fuse block (J/B)
E111	W/4	:	Fuse block (J/B)
E112	W/16	:	Fuse block (J/B)
E113	BR/2	:	Key switch (Except for TD engine models with NATS)
E114	W/6	:	Ignition switch
E115	BR/8	:	Combination switch (Lighting switch)
E116	BR/4	:	Combination switch (Lighting switch)
E117	BR/3	:	Combination switch (Cornering lamp switch)
E118	W/4	:	Combination switch (Rear wiper switch)
E119	GY/8	:	Combination switch (Front wiper switch) (Without intermittent wiper)
E120	GY/8	:	Combination switch (Front wiper switch) (With intermittent wiper)
E121	GY/2	:	Condenser (TB45S engine models)
E122	W/2	:	Diode (Except for TB45S engine models)
E123	W/24	:	TCM (Transmission control module) (TB48 engine A/T models)
E124	GY/24	:	TCM (Transmission control module) (TB48 engine A/T models)
E127	SMJ	:	To M21
E128	W/6	:	Combination switch (Rear fog lamp switch)
E129	W/6	:	Combination switch (Front and rear fog lamp switch)
E131	W/3	:	Tweeter LH
E165	W/2	:	Key switch (TD engine models with NATS)
E170	W/2	:	Diode (Except for TB48 engine models)
E171	W/2	:	Diode (TB45S engine models)
E172	W/2	:	Diode (ZD engine A/T models)
E173	W/2	:	Diode (ZD engine A/T models)

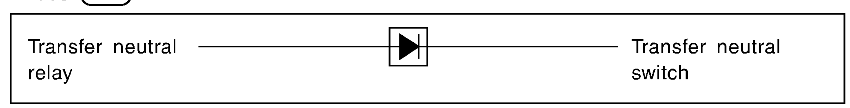
Diode E108



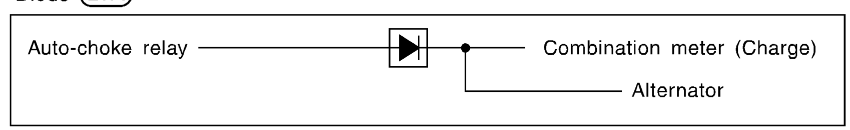
Diode E122



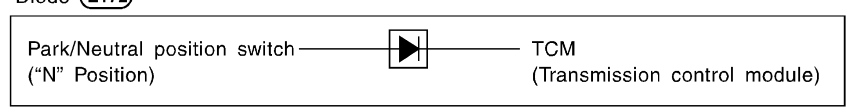
Diode E170



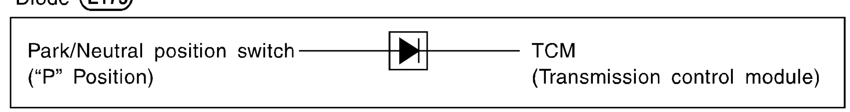
Diode E171



Diode E172



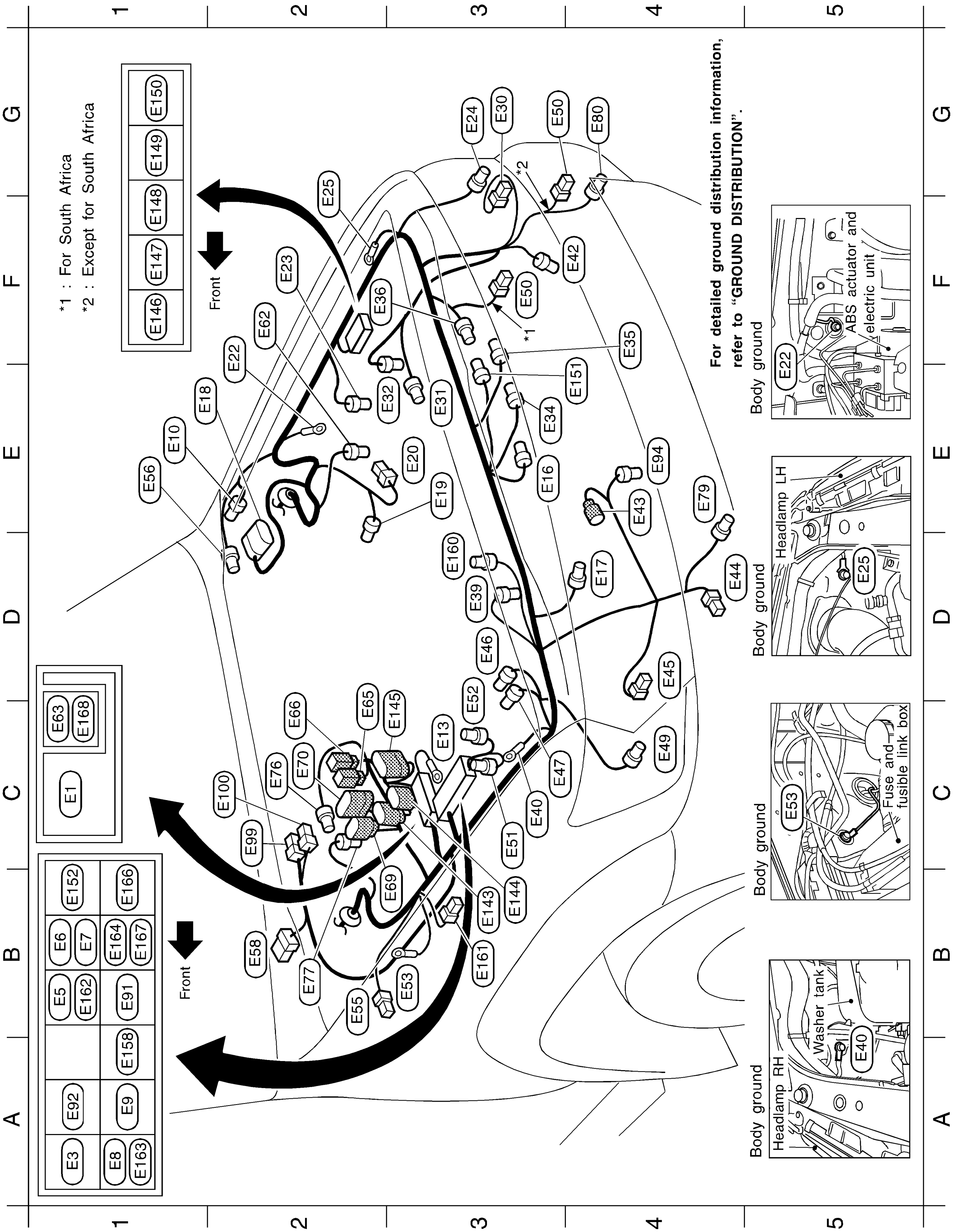
Diode E173



CEL330M

Engine Room Harness/RHD Models

GASOLINE ENGINE MODELS



CEL331M

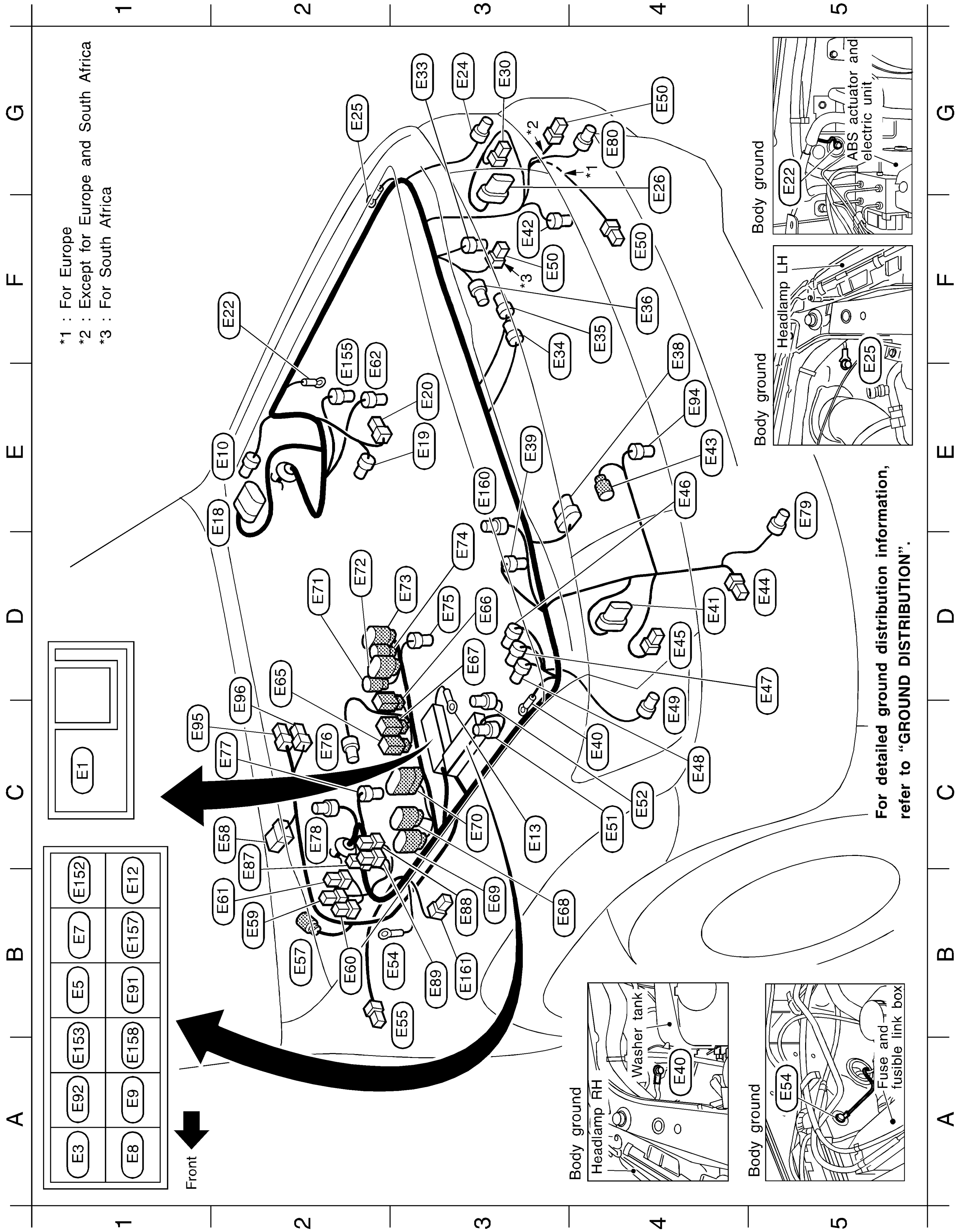
Engine Room Harness/RHD Models (Cont'd)

C1 E1 — : Fuse and fusible link box
A1 E3 GY/6 : Transfer neutral relay
B1 E5 BR/6 : Air conditioner relay (Except for TB48 engine models)
B1 E6 GY/6 : Auto-choke relay (TB45S engine models)
B1 E7 L/4 : Bulb check relay (Except for TB45S engine models)
A1 E8 L/4 : Cooling fan relay-1 (Except for TB48 engine models)
A1 E9 W/3 : Horn relay
E1 E10 SB/4 : Diff lock solenoid
C3 E13 — : Battery (+)
E4 E16 B/2 : Ambient sensor (With front auto A/C for TB48 engine models)
D4 E17 GY/4 : Cooling fan motor-2 (TB48 engine models)
E1 E18 SMJ : ABS actuator and electric unit
E3 E19 SB/4 : Power antenna
E3 E20 B/2 : Side turn signal lamp LH
F2 E22 — : Body ground (With ABS)
F2 E23 GY/2 : Ignition coil (TB45S engine models)
G3 E24 SB/4 : Front combination lamp LH
G2 E25 — : Body ground
G3 E30 B/3 : Headlamp LH
E3 E31 SB/4 : Distributor } (TB45S engine models)
E3 E32 B/1 : Compressor } (TB45S engine models)
E3 E34 B/2 : Ambient air temperature sensor (With compass and thermometer)
F3 E35 B/2 : Ambient sensor (With front auto A/C except for TB48 engine models)
F2 E36 GY/4 : Cooling fan motor-1
D3 E39 B/2 : Dual-pressure switch
C3 E40 — : Body ground
F4 E42 GY/2 : Engine coolant temperature switch-2 (TB45S engine models with A/C)
E4 E43 GY/2 : To E181 (With electrical winch)
D4 E44 B/1 : Horn low
D4 E45 B/3 : Headlamp RH
D3 E46 GY/2 : Front washer motor
C3 E47 BR/2 : Rear washer motor
C4 E49 SB/4 : Front combination lamp RH
G4 E50 B/1 : Horn high
C3 E51 BR/2 : Park/Neutral position relay-1 } (TB48 engine A/T models and TB45S engine models with NATS)
C3 E52 BR/2 : Park/Neutral position relay-1 } (TB48 engine A/T models and TB45S engine models with NATS)

B3 E53 — : Body ground
B2 E55 B/2 : Side turn signal lamp RH
E1 E56 GY/4 : ASCD pump
B2 E58 W/6 : Front wiper motor
F2 E62 BR/2 : Front wheel sensor LH (With ABS)
C1 E63 B/5 : Park/Neutral position relay-2 (A/T models with ASCD)
D3 E65 B/2 : To E204 (TB48 engine models)
C2 E66 L/2 : To E203
B3 E69 GY/8 : To E202
C2 E70 GY/10 : To E201
C2 E76 GY/2 : Brake fluid level switch
B3 E77 GY/2 : Front wheel sensor RH (With ABS)
D4 E79 BR/2 : Front fog lamp RH
F3 E80 BR/2 : Front fog lamp LH
B1 E91 BR/6 : Rear window defogger relay
A1 E92 B/5 : A/C cut relay } (TB45S engine models with A/C)
E4 E94 GY/2 : Engine coolant temperature switch-1 } (TB45S engine models with A/C)
C2 E99 B/1 : ISC-FI POT control solenoid valve } (TB45S engine models with A/C)
C2 E100 B/1 : ISC-FI POT control solenoid valve } (TB45S engine models with A/C)
B3 E143 GY/8 : To E233 } (A/T models)
B3 E144 BR/8 : To E234 } (A/T models)
C3 E145 GY/10 : To E236 } (A/T models)
F1 E146 B/5 : Shift lock relay } (A/T models)
F1 E147 BR/6 : Park/Neutral position relay-3 } (A/T models)
F1 E148 L/4 : Throttle control motor relay } (A/T models)
G1 E149 L/4 : Back-up lamp relay } (A/T models)
G1 E150 L/4 : A/T pv ign relay } (A/T models)
E4 E151 BR/2 : Ambient air temperature switch (TB48 engine models with front manual A/C) } (A/T models)
B1 E152 L/4 : Front fog lamp relay
A1 E158 BR/6 : Theft warning lamp relay
D3 E160 GY/2 : Hood switch
B3 E161 B/1 : Theft warning horn
B1 E162 L/4 : Air conditioner relay } (TB48 engine models)
A1 E163 BR/6 : Cooling fan relay-1 } (TB48 engine models)
B1 E164 BR/6 : Cooling fan relay-2 } (TB48 engine models)
B1 E166 BR/6 : Cooling fan relay-3 } (TB48 engine models)
B1 E167 L/4 : Distributor cut relay } (TB45S engine models with NATS)
C1 E168 B/5 : Starter cut relay } (TB45S engine models with NATS)

CEL332M

DIESEL ENGINE MODELS



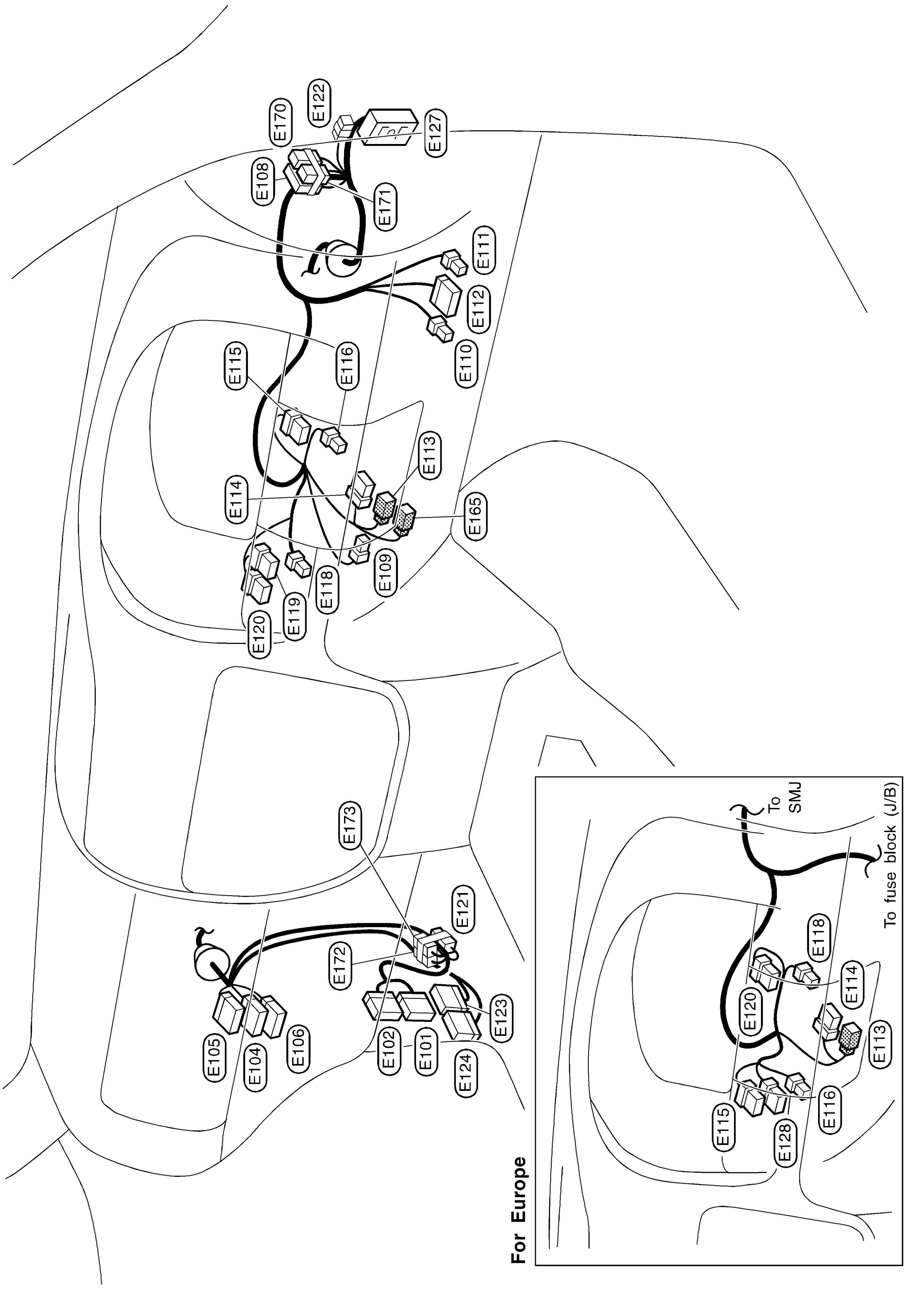
CEL333M

Grid	Connector	Color/No.		Description
C1	E1	—	:	Fuse and fusible link box
A1	E3	GY/6	:	Transfer neutral relay
B1	E5	BR/6	:	Air conditioner relay
B1	E7	L/4	:	Bulb check relay
A1	E8	L/4	:	Cooling fan relay-1
A1	E9	W/3	:	Horn relay
E2	E10	SB/4	:	Diff lock solenoid
B1	E12	L/4	:	Wiper deicer relay
C3	E13	—	:	Battery (+)
E2	E18	SMJ	:	ABS actuator and electric unit
E3	E19	SB/4	:	Power antenna
E3	E20	B/2	:	Side turn signal lamp LH
F2	E22	—	:	Body ground (With ABS)
G3	E24	SB/4	:	Front combination lamp LH
G2	E25	—	:	Body ground
G4	E26	SB/6	:	Headlamp aiming motor LH
G3	E30	B/3	:	Headlamp LH
G3	E33	GY/4	:	Headlamp wiper motor LH
F3	E34	B/2	:	Ambient air temperature sensor (With compass and thermometer)
F4	E35	B/2	:	Ambient sensor (With auto A/C)
F4	E36	GY/4	:	Cooling fan motor-1
F4	E38	GY/6	:	Headlamp wiper motor RH
E3	E39	B/2	:	Dual-pressure switch
C4	E40	—	:	Body ground
D4	E41	SB/6	:	Headlamp aiming motor RH
F3	E42	GY/2	:	Engine coolant temperature switch-2 (TD engine models with A/C)
E4	E43	GY/2	:	To E181 (With electrical winch)
D5	E44	B/1	:	Horn low
D4	E45	B/3	:	Headlamp RH
E4	E46	GY/2	:	Front washer motor
D5	E47	BR/2	:	Rear washer motor
C4	E48	GY/2	:	Headlamp washer motor
C4	E49	SB/4	:	Front combination lamp RH
F4, G4	E50	B/1	:	Horn high
C4	E51	BR/2	:	Park/Neutral position relay-1 (A/T models)
C4	E52	BR/2	:	Park/Neutral position relay-1 (A/T models)
B3	E54	—	:	Body ground
B3	E55	B/2	:	Side turn signal lamp RH
B2	E57	B/2	:	Wiper deicer
C2	E58	W/6	:	Front wiper motor
B2	E59	G/2	:	Grow relay-1
B2	E60	W/1	:	Grow relay-1
B2	E61	W/1	:	Grow relay-1
E2	E62	BR/2	:	Front wheel sensor LH (With ABS)
D2	E65	B/2	:	To E204
D3	E66	L/2	:	To E203
D3	E67	R/2	:	To E223
B4	E68	SB/8	:	To E222 (TD engine models)
B3	E69	GY/8	:	To E202
C3	E70	GY/10	:	To E201
D2	E71	GY/3	:	Revolution sensor (A/T models)
D2	E72	BR/8	:	A/T solenoid valve (A/T models)
D3	E73	GY/8	:	Park/Neutral position switch (A/T models)
D3	E74	GY/2	:	Park/Neutral position switch (A/T models)
D3	E75	BR/2	:	Fuel filter switch
C2	E76	GY/2	:	Brake fluid level switch
C2	E77	GY/2	:	Front wheel sensor RH (With ABS)
C2	E78	GY/2	:	Dropping resistor (A/T models)
E5	E79	BR/2	:	Front fog lamp RH
G4	E80	BR/2	:	Front fog lamp LH
B2	E87	G/2	:	Glow relay-2 (TD engine models for Australia)
B3	E88	W/1	:	Glow relay-2 (TD engine models for Australia)
B3	E89	W/1	:	Glow relay-2 (TD engine models for Australia)
B1	E91	BR/6	:	Rear window defogger relay
A1	E92	B/5	:	A/C cut relay (TD engine models with A/C)
E4	E94	GY/2	:	Engine coolant temperature switch-1 (TD engine models with A/C)
C1	E95	B/1	:	IACV-FICD solenoid valve (TD engine models with A/C)
C2	E96	B/1	:	IACV-FICD solenoid valve (TD engine models with A/C)
B1	E152	L/4	:	Front fog lamp relay
A1	E153	L/4	:	Rear fog lamp relay
E2	E155	B/2	:	Exhaust gas control valve control solenoid valve (ZD engine models)
B1	E157	B/5	:	Shift lock relay (A/T models)
A1	E158	BR/6	:	Theft warning lamp relay
E3	E160	GY/2	:	Hood switch
B3	E161	B/1	:	Theft warning horn

CEL334M

Engine Room Harness/RHD Models (Cont'd)

PASSENGER COMPARTMENT

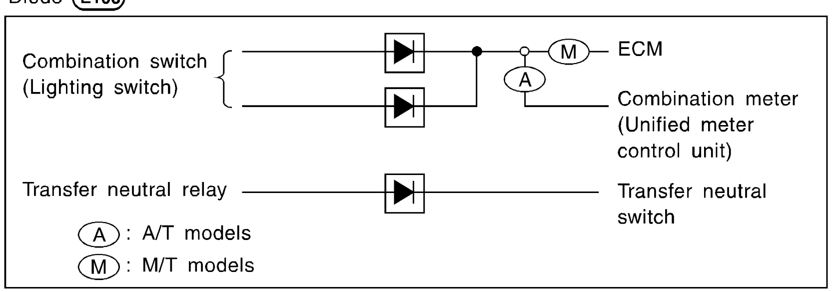


CEL335M

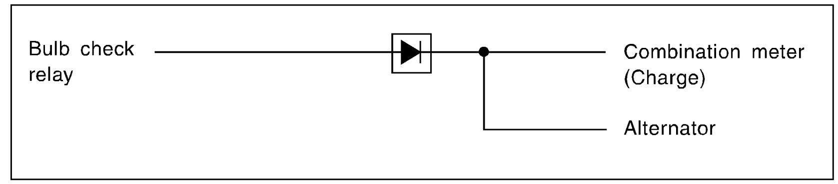
Engine Room Harness/RHD Models (Cont'd)

Connector	Color/Pins		Description	
E101	W/24	:	TCM (Transmission control module)	(ZD engine A/T models)
E102	GY/24	:	TCM (Transmission control module)	(ZD engine A/T models)
E104	BR/16	:	To M86	
E105	W/16	:	To M87	
E106	W/24	:	To M88	
E108	L/10	:	Diode (TB48 engine models)	
E109	B/1	:	Horn switch (Without air bag)	
E110	B/2	:	Fuse block (J/B)	
E111	W/4	:	Fuse block (J/B)	
E112	W/16	:	Fuse block (J/B)	
E113	BR/2	:	Key switch (Except for TD engine models with NATS)	
E114	W/6	:	Ignition switch	
E115	BR/8	:	Combination switch	(Lighting switch)
E116	BR/4	:	Combination switch	(Lighting switch)
E118	W/4	:	Combination switch (Rear wiper switch)	
E119	GY/8	:	Combination switch (Front wiper switch) (Without intermittent wiper)	
E120	GY/8	:	Combination switch (Front wiper switch) (With intermittent wiper)	
E121	GY/2	:	Condenser (TB45S engine models)	
E122	W/2	:	Diode (Except for TB45S engine models)	
E123	W/24	:	TCM (Transmission control module)	(TB48 engine A/T models)
E124	GY/24	:	TCM (Transmission control module)	(TB48 engine A/T models)
E127	SMJ	:	To M21	
E128	W/6	:	Combination switch (Rear fog lamp switch)	
E165	W/2	:	Key switch (TD engine models with NATS)	
E170	W/2	:	Diode (Except for TB48 engine models)	
E171	W/2	:	Diode (TB45S engine models)	
E172	W/2	:	Diode	(ZD engine A/T models)
E173	W/2	:	Diode	(ZD engine A/T models)

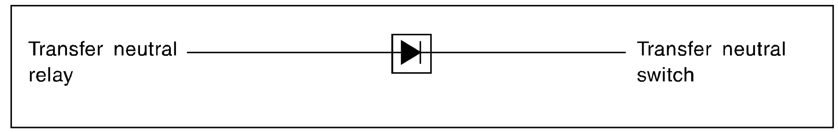
Diode E108



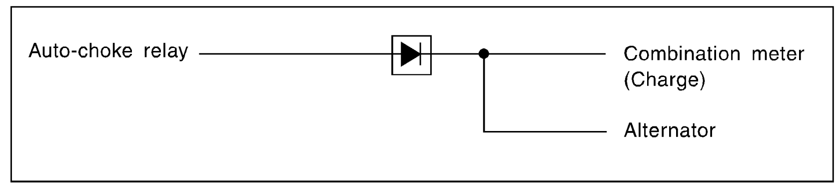
Diode E122



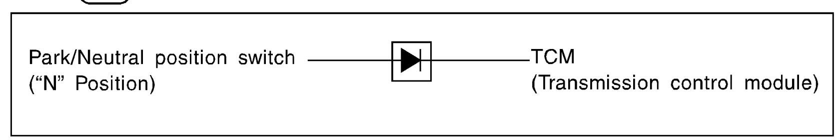
Diode E170



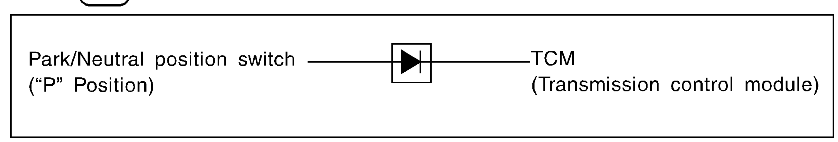
Diode E171



Diode E172



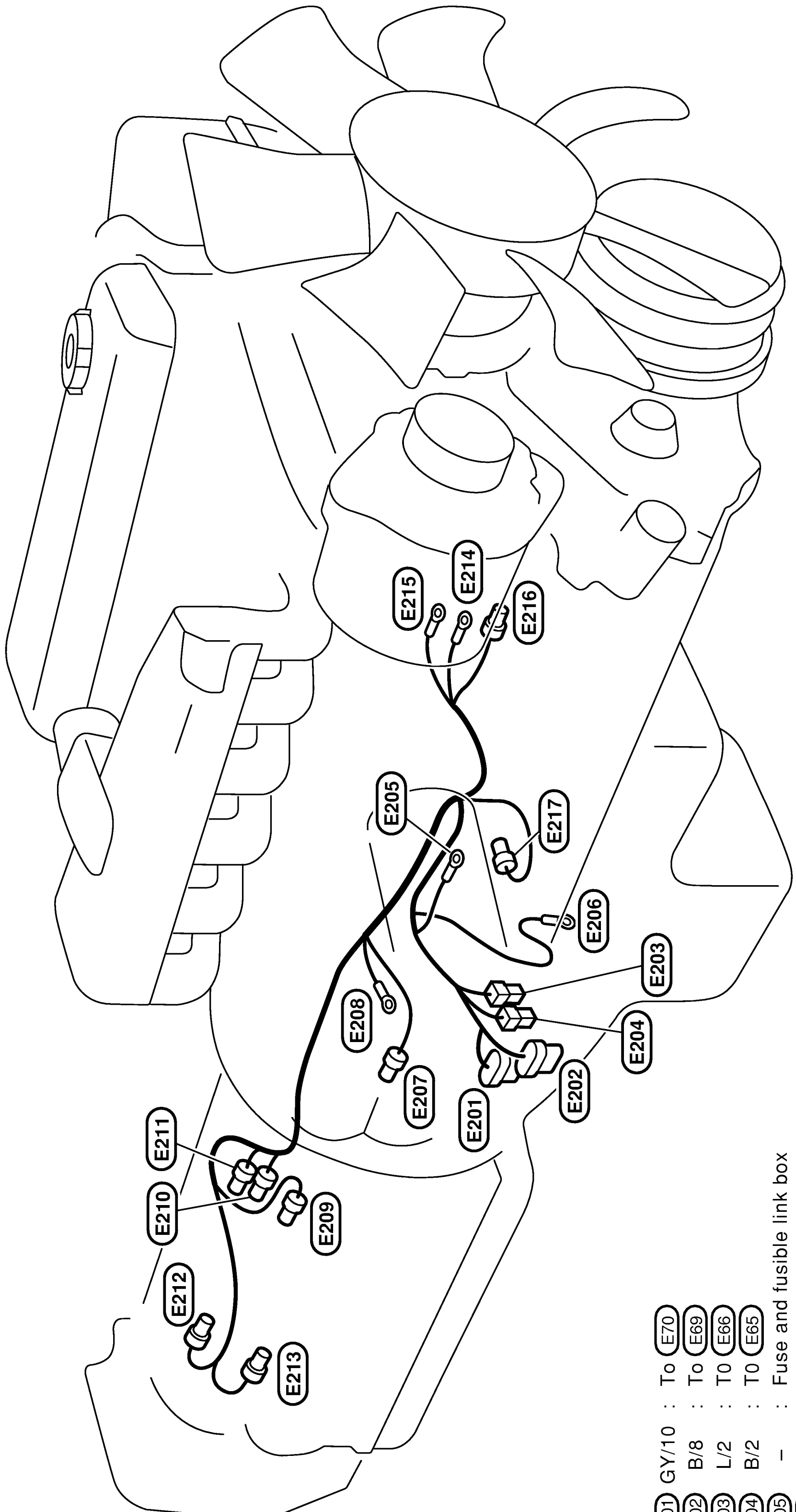
Diode E173



CEL336M

Engine Harness

TB45E ENGINE

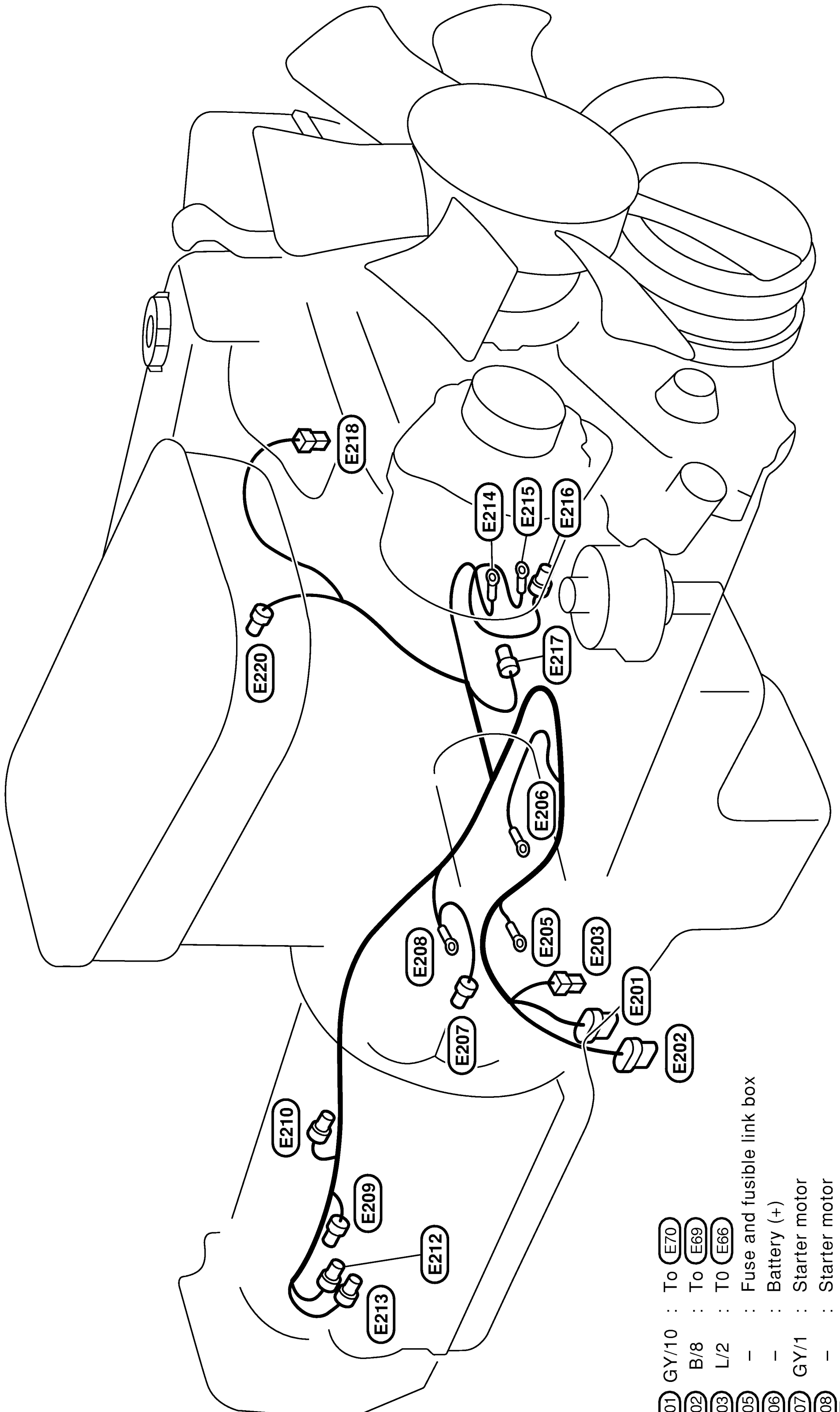


E201	GY/10	:	To E70
E202	B/8	:	To E69
E203	L/2	:	T0 E66
E204	B/2	:	T0 E65
E205	–	:	Fuse and fusible link box
E206	–	:	Battery (+)
E207	GY/1	:	Starter motor
E208	–	:	Starter motor
E209	GY/2	:	Vehicle speed sensor
E210	GY/2	:	Back-up lamp switch
E211	B/2	:	Park/Neutral position switch
E212	GY/2	:	4WD switch
E213	BR/2	:	Transfer neutral switch
E214	–	:	Alternator
E215	–	:	Alternator
E216	GY/2	:	Alternator
E217	GY/1	:	Oil pressure switch

CEL337M

Engine Harness (Cont'd)

TB45S ENGINE

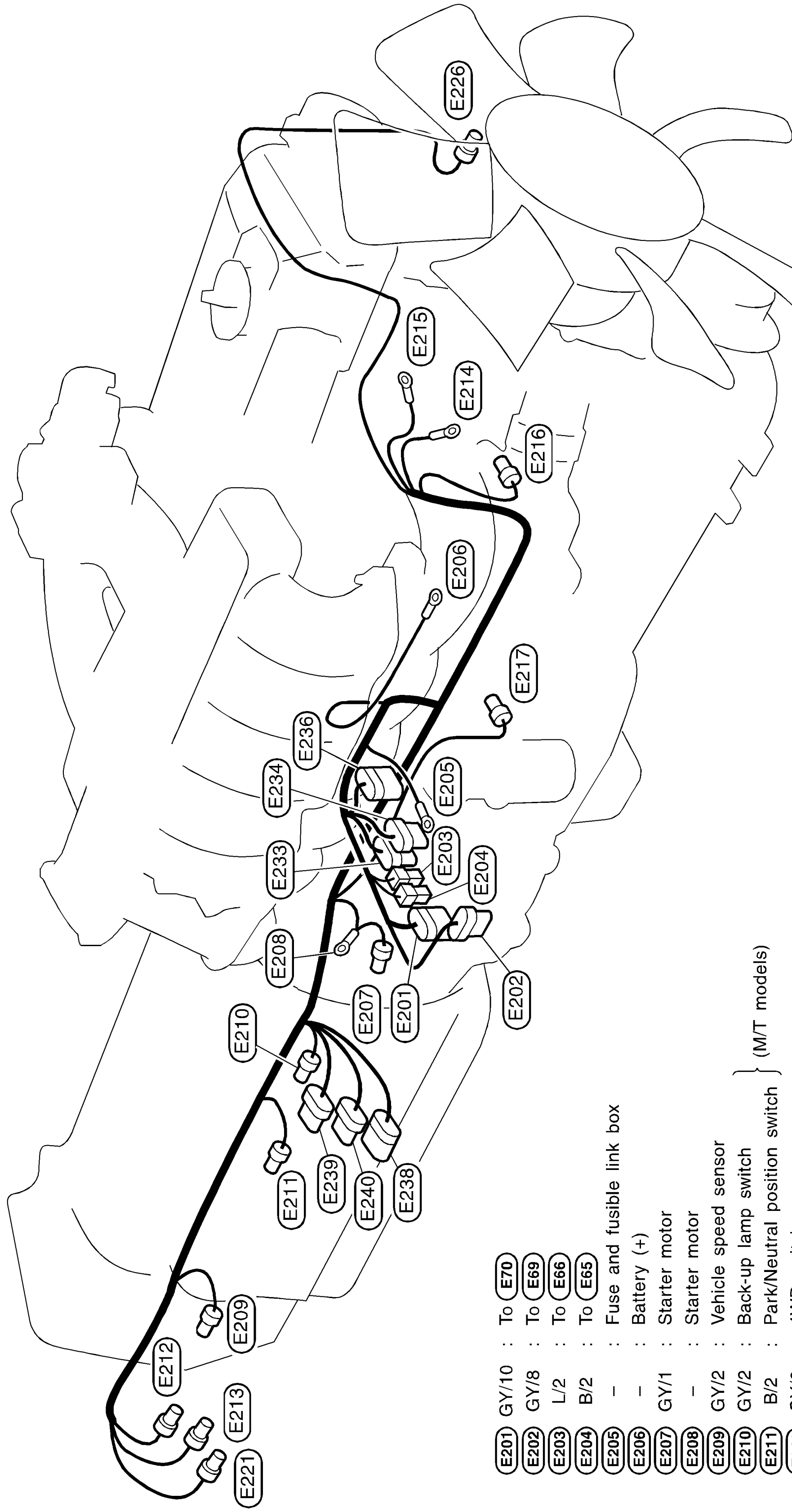


Connector	Color/Pins		Description
E201	GY/10	:	To E70
E202	B/8	:	To E69
E203	L/2	:	T0 E66
E205	–	:	Fuse and fusible link box
E206	–	:	Battery (+)
E207	GY/1	:	Starter motor
E208	–	:	Starter motor
E209	GY/2	:	Vehicle speed sensor
E210	GY/2	:	Back-up lamp switch
E212	GY/2	:	4WD switch
E213	BR/2	:	Transfer neutral switch
E214	–	:	Alternator
E215	–	:	Alternator
E216	GY/2	:	Alternator
E217	GY/1	:	Oil pressure switch
E218	B/1	:	Thermal transmitter
E220	B/4	:	Carburetor

CEL338M

Engine Harness (Cont'd)

TB48DE ENGINE

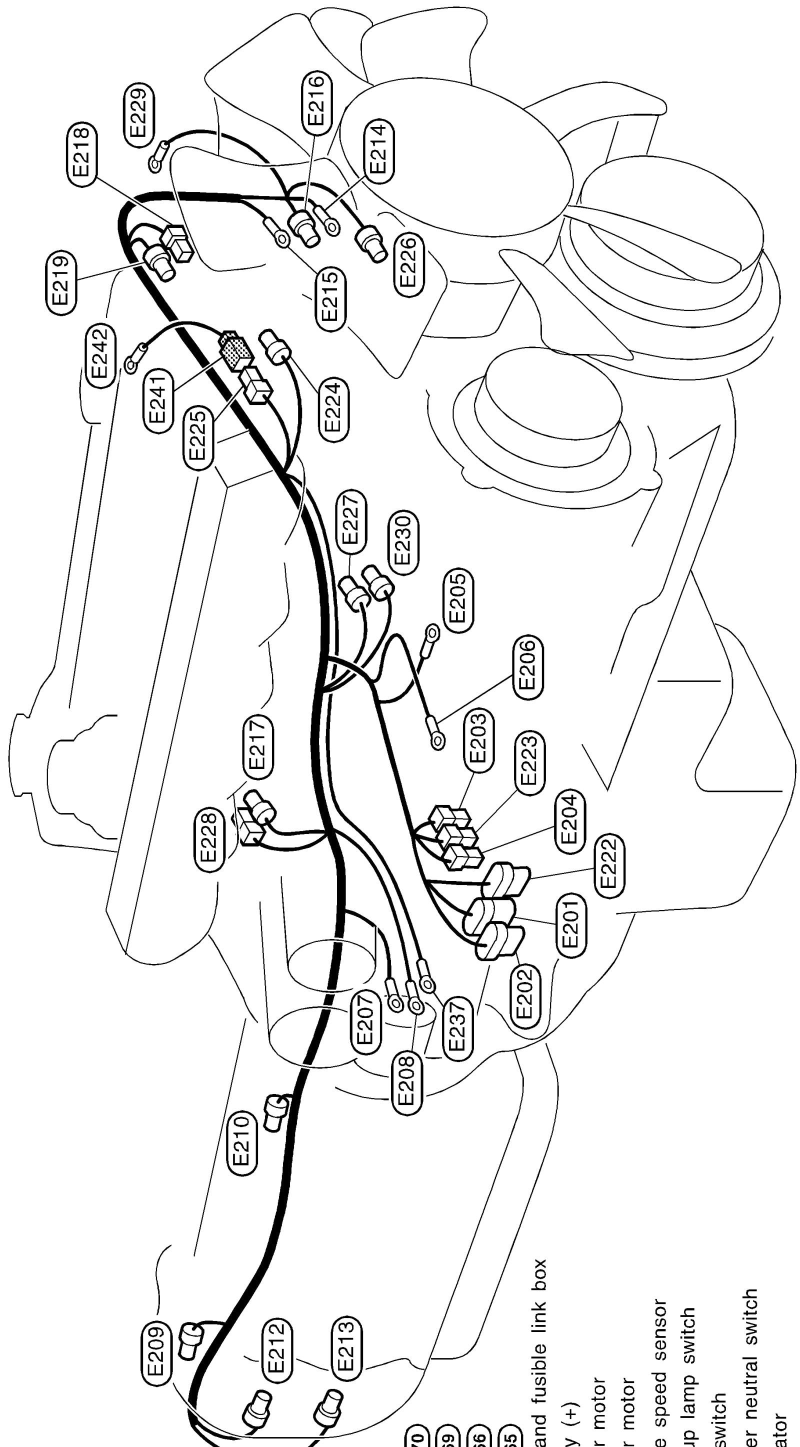


Connector	Wire		Description
E201	GY/10	:	To E70
E202	GY/8	:	To E69
E203	L/2	:	To E66
E204	B/2	:	To E65
E205	–	:	Fuse and fusible link box
E206	–	:	Battery (+)
E207	GY/1	:	Starter motor
E208	–	:	Starter motor
E209	GY/2	:	Vehicle speed sensor
E210	GY/2	:	Back-up lamp switch } (M/T models)
E211	B/2	:	Park/Neutral position switch } (M/T models)
E212	GY/2	:	4WD switch
E213	BR/2	:	Transfer neutral switch
E214	–	:	Alternator
E215	–	:	Alternator
E216	GY/2	:	Alternator
E217	GY/1	:	Oil pressure switch
E221	B/2	:	Transfer 4LO switch (A/T models)
E226	B/1	:	Compressor
E233	GY/8	:	To E143 } (A/T models)
E234	BR/8	:	To E144 } (A/T models)
E236	GY/10	:	To E145 } (A/T models)
E238	G/10	:	A/T unit assembly } (A/T models)
E239	G/8	:	A/T unit assembly } (A/T models)
E240	B/8	:	A/T unit assembly } (A/T models)

CEL341M

Engine Harness (Cont'd)

TD42 ENGINE



Engine harness

Connector	Wire		Description
E201	GY/10	:	To E70
E202	B/8	:	To E69
E203	L/2	:	To E66
E204	B/2	:	To E65
E205	–	:	Fuse and fusible link box
E206	–	:	Battery (+)
E207	–	:	Starter motor
E208	–	:	Starter motor
E209	GY/2	:	Vehicle speed sensor
E210	GY/2	:	Back-up lamp switch
E212	GY/2	:	4WD switch
E213	BR/2	:	Transfer neutral switch
E214	–	:	Alternator
E215	–	:	Alternator
E216	GY/2	:	Alternator
E217	GY/1	:	Oil pressure switch
E218	B/1	:	Thermal transmitter
E219	GY/2	:	Engine coolant temperature sensor
E222	GY/8	:	To E68
E223	R/2	:	To E67
E224	BR/2	:	Engine revolution sensor
E225	B/1	:	To E241
E226	B/1	:	Compressor
E227	GY/2	:	Injection pump (Without NATS)
E228	B/2	:	Glow resistor
E229	–	:	Battery (+) (For cold areas)
E230	B/3	:	Csolu (With NATS)
E237	–	:	Starter motor (For cold areas)

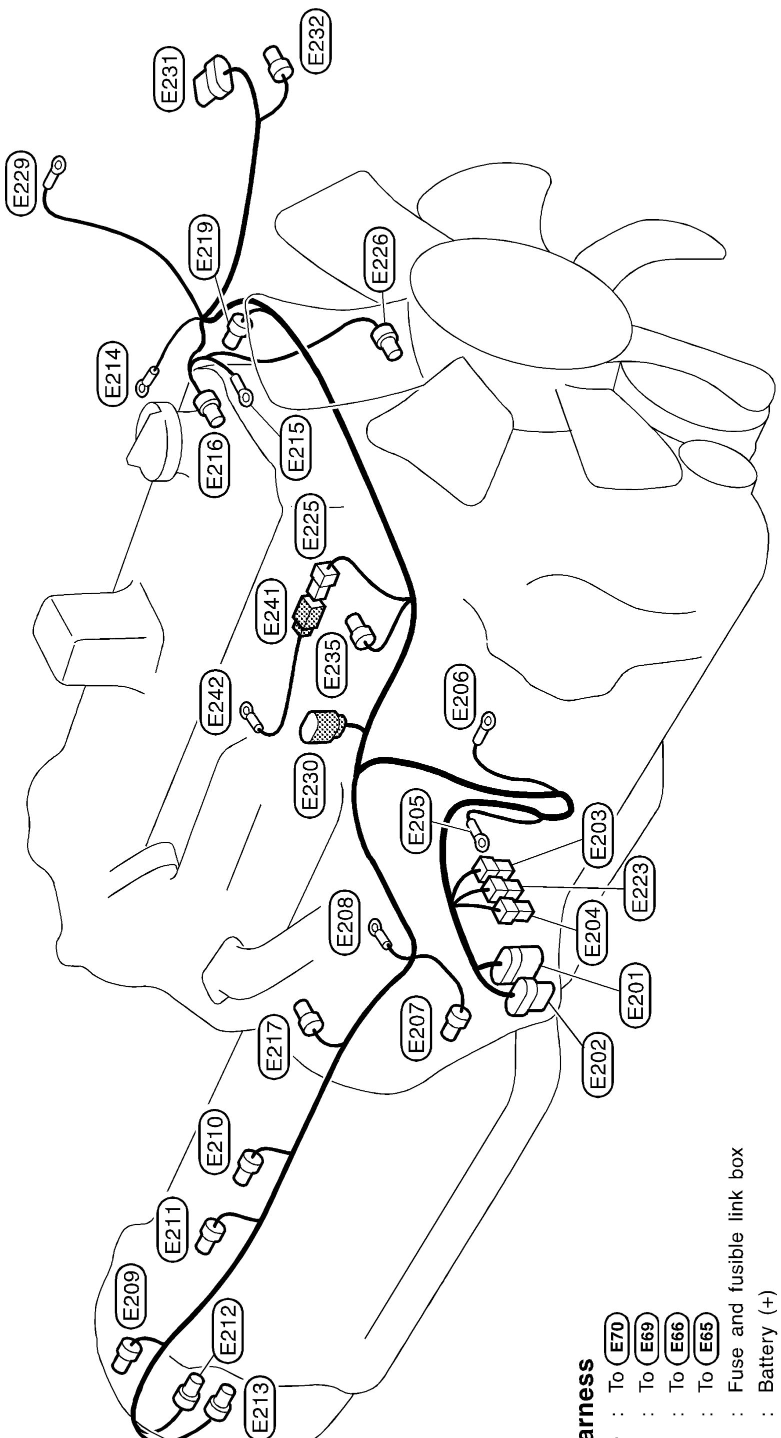
Glow sub-harness

Connector	Wire		Description
E241	B/1	:	To E225
E242	–	:	Glow plug

CEL339M

Engine Harness (Cont'd)

ZD ENGINE



Engine harness

Connector	Color/Pole		Description
E201	GY/10	:	To E70
E202	B/8	:	To E69
E203	L/2	:	To E66
E204	B/2	:	To E65
E205	–	:	Fuse and fusible link box
E206	–	:	Battery (+)
E207	GY/1	:	Starter motor
E208	–	:	Starter motor
E209	GY/2	:	Vehicle speed sensor
E210	GY/2	:	Back-up lamp switch } (M/T models)
E211	B/2	:	Park/Neutral position switch } (M/T models)
E212	GY/2	:	4WD switch
E213	BR/2	:	Transfer neutral switch
E214	–	:	Alternator
E215	–	:	Alternator
E216	GY/2	:	Alternator
E217	GY/1	:	Oil pressure switch
E219	GY/2	:	Engine coolant temperature sensor
E223	R/2	:	To E67
E225	B/1	:	To E241
E226	B/1	:	Compressor
E229	–	:	Battery (+) (For cold areas)
E230	B/8	:	To F12
E231	GY/5	:	Mass air flow sensor
E232	BR/2	:	Variable nozzle turbocharger control solenoid valve
E235	B/1	:	Thermal transmitter

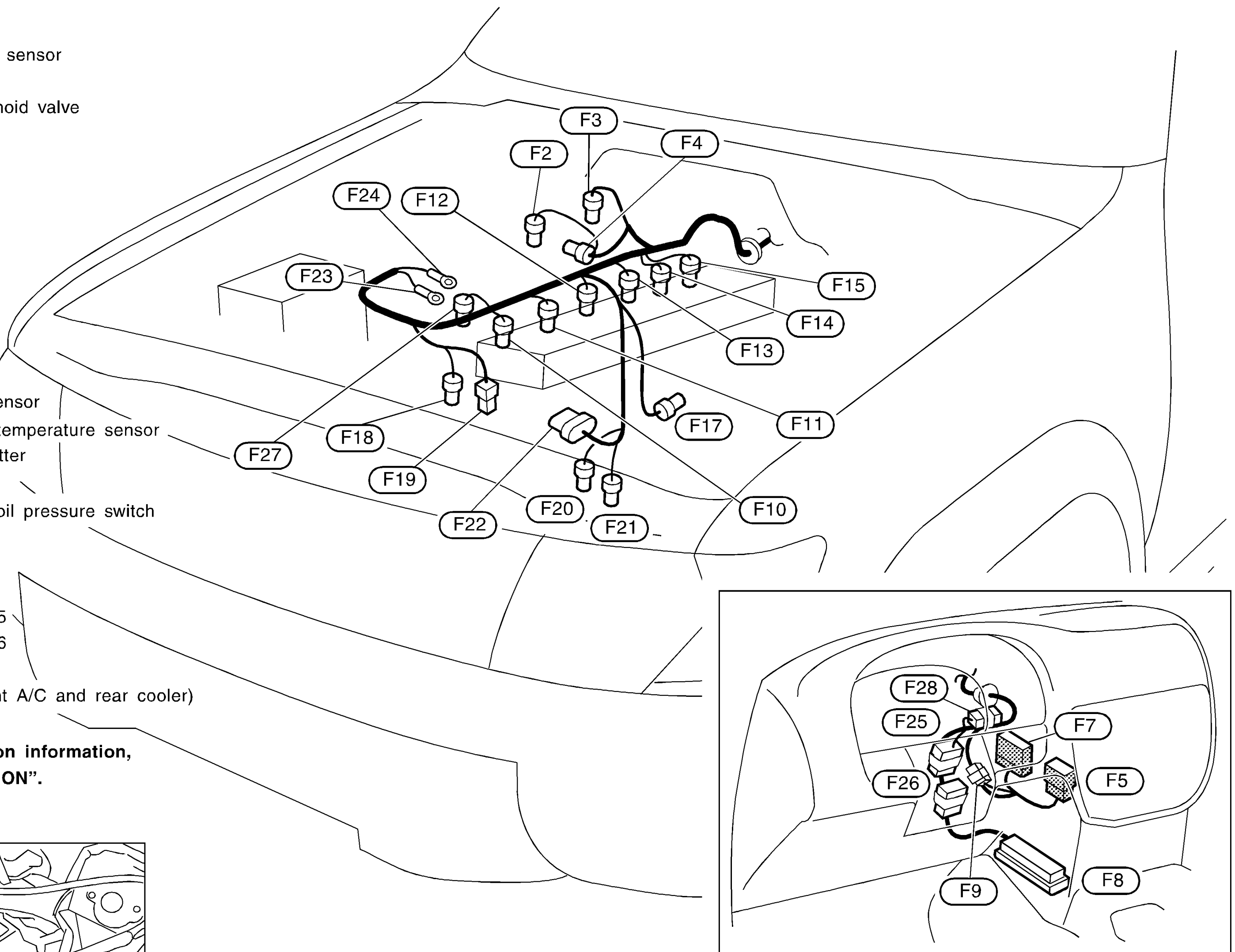
Glow sub-harness

Connector	Color/Pole		Description
E241	B/1	:	To E225
E242	–	:	Glow plug

CEL340M

Engine Control Harness

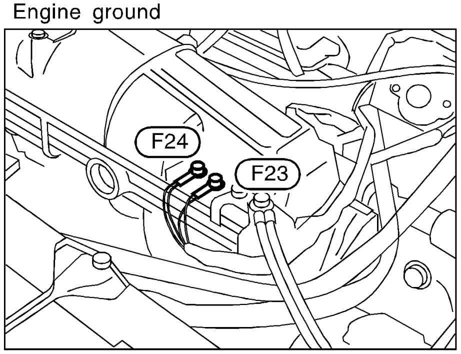
TB45E ENGINE



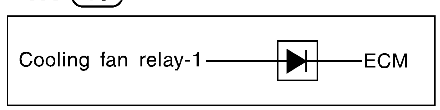
- F2 BR/3 : Throttle position sensor
- F3 BR/2 : IACV-AAC valve
- F4 PU/2 : IACV-FICD solenoid valve
- F5 W/6 : To M50
- F7 W/24 : To M52
- F8 SMJ : ECM
- F9 W/2 : Diode
- F10 B/2 : Injector No. 1
- F11 B/2 : Injector No. 2
- F12 B/2 : Injector No. 3
- F13 B/2 : Injector No. 4
- F14 B/2 : Injector No. 5
- F15 B/2 : Injector No. 6
- F17 BR/4 : Mass air flow sensor
- F18 GY/2 : Engine coolant temperature sensor
- F19 B/1 : Thermal transmitter
- F20 B/1 : Compressor
- F21 B/2 : Power steering oil pressure switch
- F22 GY/8 : Distributor
- F23 – : Engine ground
- F24 – : Engine ground
- F25 GY/6 : Joint connector-5
- F26 GY/6 : Joint connector-6
- F27 GY/2 : Knock sensor
- F28 W/2 : Diode (With front A/C and rear cooler)

For detailed ground distribution information, refer to "GROUND DISTRIBUTION".

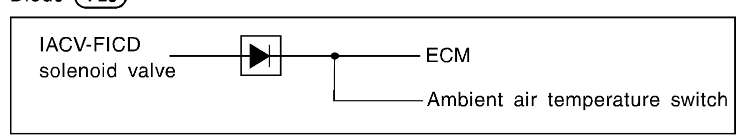
Engine ground



Diode F9



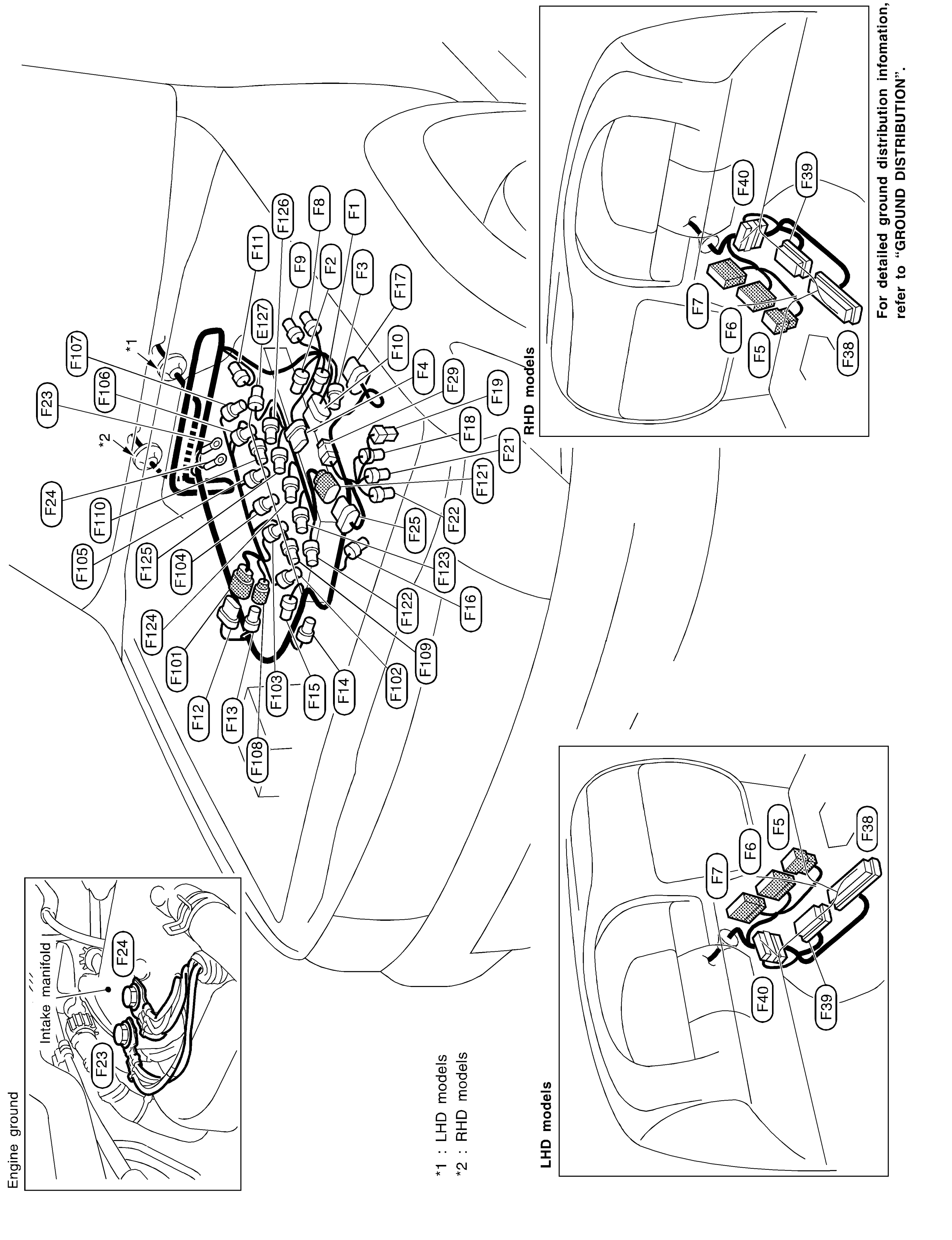
Diode F28



CEL342M

Engine Control Harness (Cont'd)

TB48DE ENGINE



CEL344M

Engine Control Harness (Cont'd)

Engine control harness

Connector	Wire		Description
F1	GY/3	:	Throttle position switch (M/T models)
F2	BR/3	:	Throttle position sensor (M/T models)
F3	L/6	:	IACV-AAC valve (M/T models)
F4	L/6	:	Electric throttle control actuator (A/T models)
F5	W/6	:	To M50
F6	W/16	:	To M51
F7	W/24	:	To M52
F8	SB/3	:	Heated oxygen sensor 1 (B1) (With three way catalyst)
F9	SB/3	:	Heated oxygen sensor 1 (B2) (With three way catalyst)
F10	G/6	:	Electric throttle control actuator (A/T models)
F11	B/2	:	VIAS control solenoid valve
F12	SB/8	:	To F101
F13	SB/4	:	To F108
F14	G/2	:	Intake valve timing control solenoid valve
F15	L/2	:	EVAP canister purge volume control solenoid valve
F16	GY/4	:	Camshaft position sensor
F17	GY/5	:	Mass air flow sensor
F18	GY/2	:	Engine coolant temperature sensor
F19	B/1	:	Thermal transmitter
F21	GY/2	:	Power steering oil pressure switch
F22	GY/6	:	Power steering stepping motor
F23	–	:	Engine ground
F24	–	:	Engine ground
F25	GY/8	:	To F121
F29	GY/2	:	Condenser
F38	SMJ	:	ECM
F39	SMJ	:	ECM
F40	P/20	:	Joint connector-7

Engine control sub-harness-1

Connector	Wire		Description
F101	SB/8	:	To F12
F102	GY/2	:	Injector No. 1
F103	GY/2	:	Injector No. 2
F104	GY/2	:	Injector No. 3
F105	GY/2	:	Injector No. 4
F106	GY/2	:	Injector No. 5
F107	GY/2	:	Injector No. 6
F108	GY/4	:	To F13
F109	GY/2	:	Knock sensor-1
F110	GY/2	:	Knock sensor-2

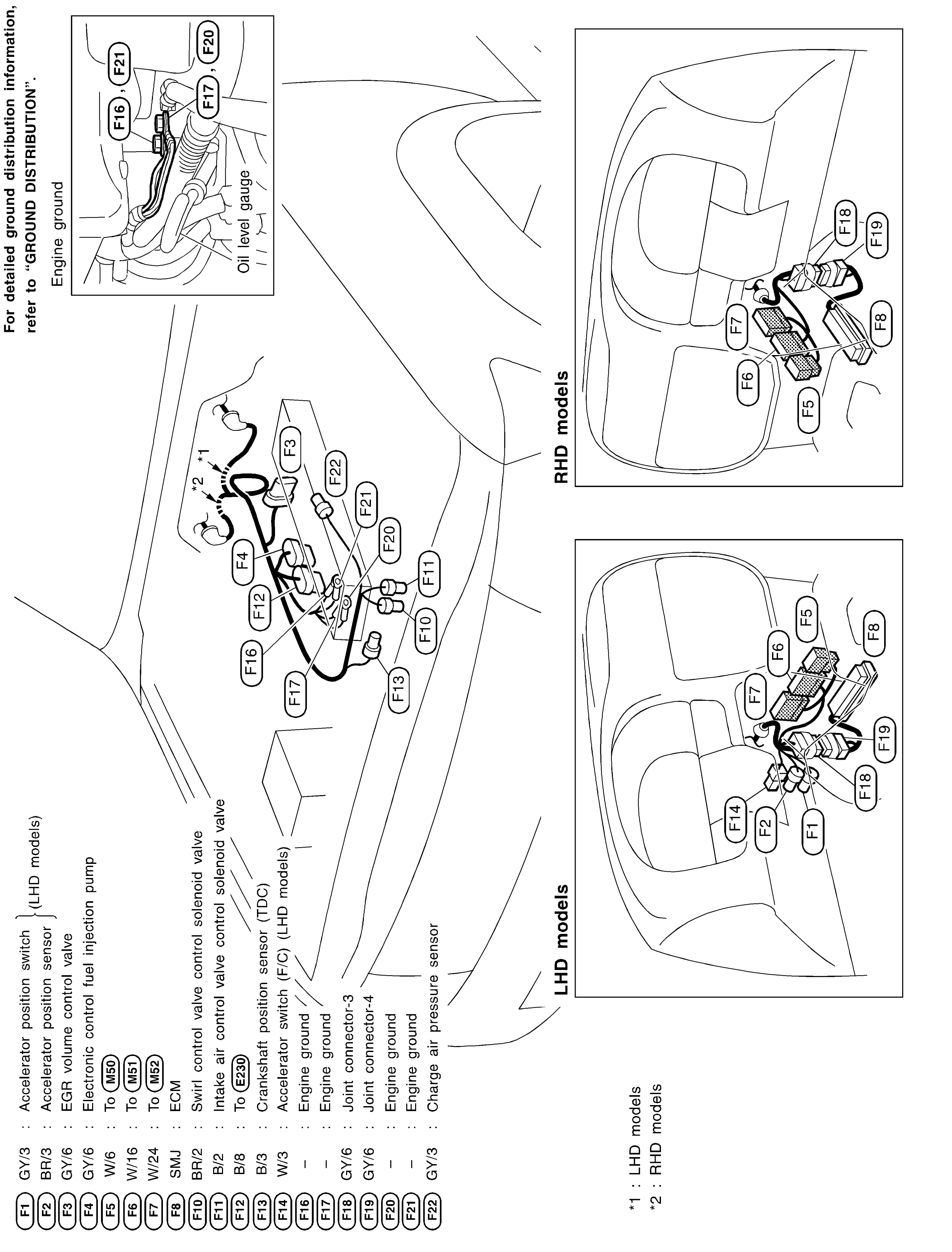
Engine control sub-harness-2

Connector	Wire		Description
F121	GY/8	:	To F25
F122	GY/3	:	Ignition coil No. 1 (With power transistor)
F123	GY/3	:	Ignition coil No. 2 (With power transistor)
F124	GY/3	:	Ignition coil No. 3 (With power transistor)
F125	GY/3	:	Ignition coil No. 4 (With power transistor)
F126	GY/3	:	Ignition coil No. 5 (With power transistor)
F127	GY/3	:	Ignition coil No. 6 (With power transistor)

CEL345M

Engine Control Harness (Cont'd)

ZD ENGINE

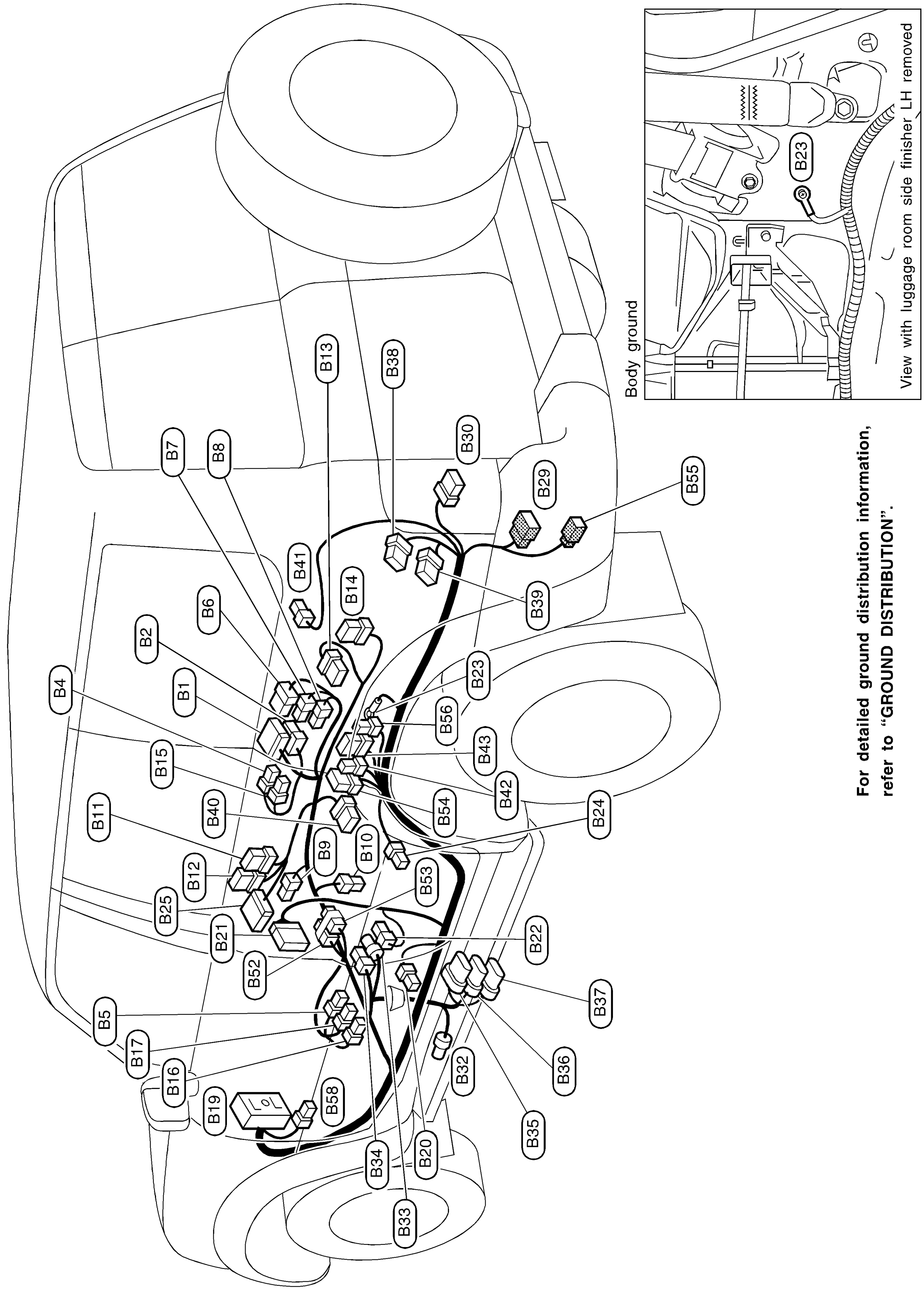


CEL343M

NOTE

Body Harness/LHD Models

WAGON



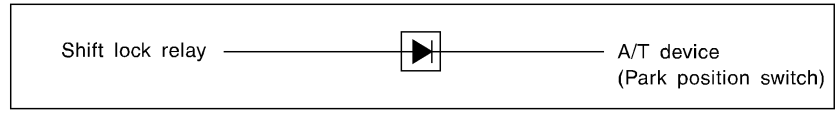
For detailed ground distribution information, refer to "GROUND DISTRIBUTION".

CEL346M

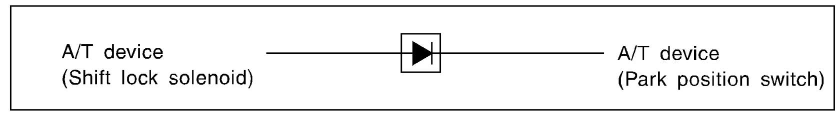
Body Harness/LHD Models (Cont’d)

Connector	Color/Pins		Description
B1	W/12	:	To B105
B2	W/8	:	To B106
B4	W/2	:	Power seat (Passenger side)
B5	W/3	:	Heated seat LH
B6	W/6	:	Wiper deicer switch
B7	W/4	:	Heated seat switch LH
B8	L/4	:	Heated seat switch RH
B9	W/3	:	Ashtray illumination
B10	B/1	:	Parking brake switch
B11	W/8	:	A/T device (ZD engine A/T models)
B12	W/8	:	A/T mode switch (ZD engine A/T models with A/T mode switch)
B13	W/6	:	Rear cooler switch
B14	W/6	:	Rear fan switch
B15	W/3	:	Heated seat RH
B16	W/3	:	Seat belt buckle switch
B17	W/2	:	Power seat (Driver side)
B19	SMJ	:	To M20
B20	B/3	:	Front door switch (Driver side)
B21	W/18	:	To D41
B22	Y/2	:	Seat belt pre-tensioner (Driver side)
B23	—	:	Body ground
B24	BR/1	:	Rear door switch LH
B25	W/12	:	A/T device (TB48 engine A/T models)
B29	W/6	:	To D81
B30	BR/6	:	Rear combination lamp LH
B32	GY/2	:	Rear cooler solenoid valve
B33	BR/2	:	G sensor (For Europe with ABS)
B34	GY/2	:	G sensor (With ABS)
B35	GY/8	:	To C1
B36	SB/6	:	To C3
B37	SB/8	:	To C2
B38	W/8	:	Rear cooler unit
B39	B/6	:	Rear cooler unit
B40	W/6	:	Cool box
B41	B/2	:	Power socket
B42	L/4	:	Power socket relay
B43	B/5	:	Rear cooler cut relay (TB45E engine models with rear cooler)
B52	W/2	:	Diode-1 } (A/T models)
B53	W/2	:	Diode-2 } (A/T models)
B54	BR/6	:	Multi-remote control relay (With theft warning system)
B55	W/4	:	To D87 (With theft warning system)
B56	L/4	:	Rear cooler cut relay (TB48 engine models with rear cooler)
B58	BR/1	:	To M89 (For Europe with rear cooler)

Diode-1 B52



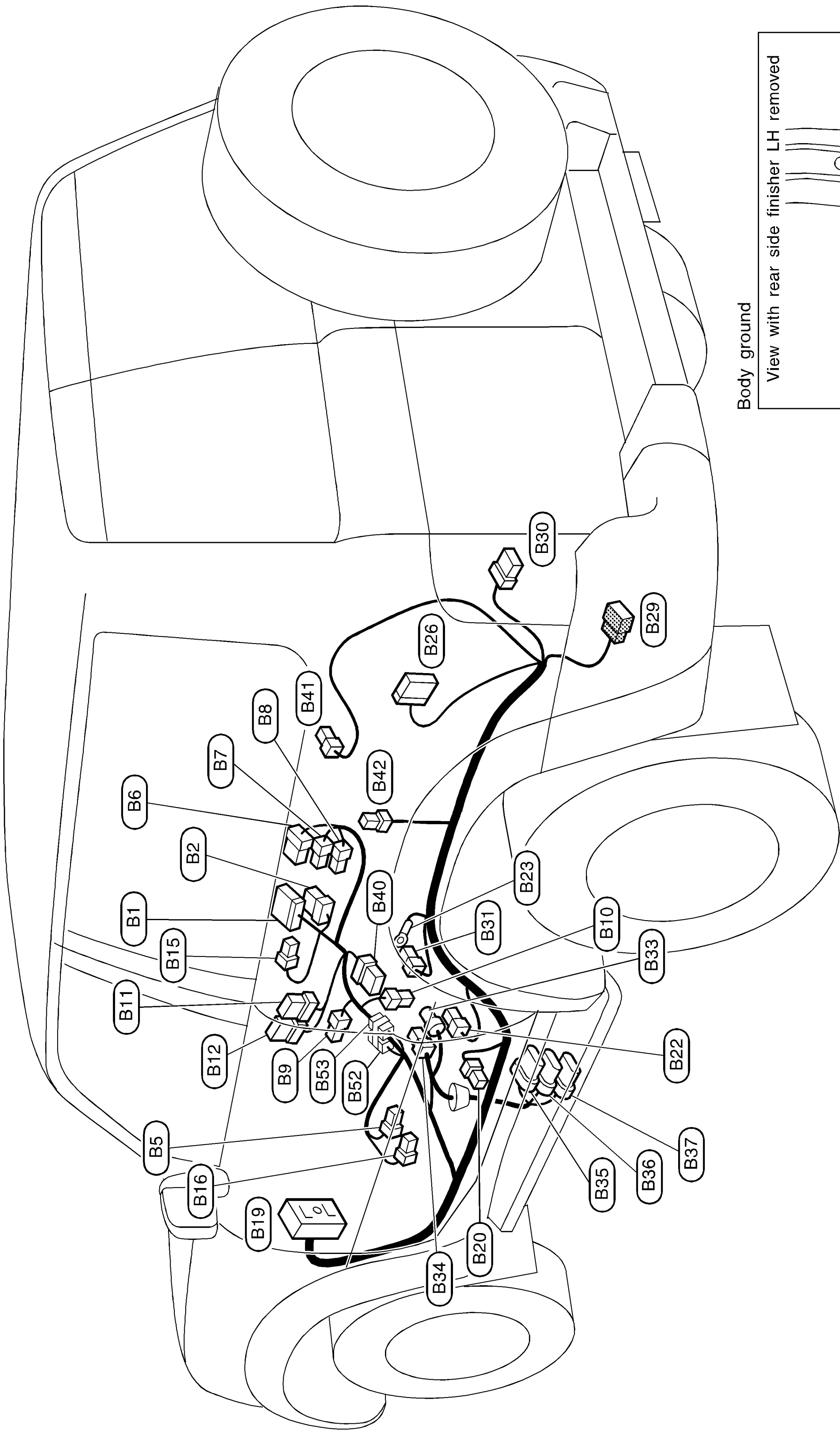
Diode-2 B53

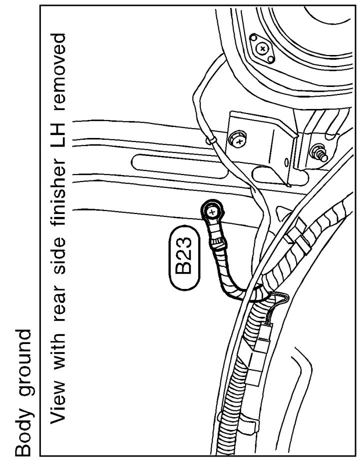


CEL347M

Body Harness/LHD Models (Cont'd)

HARDTOP



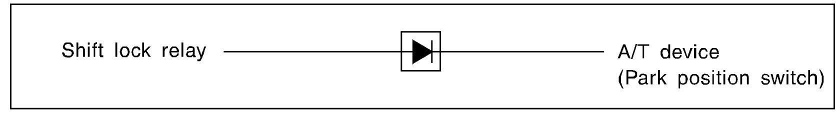


For detailed ground distribution information, refer to "GROUND DISTRIBUTION".

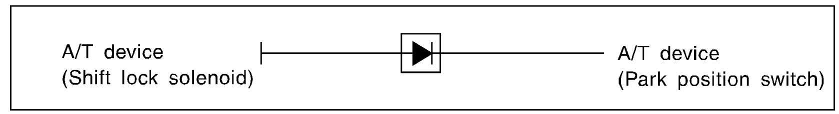
CEL256M

Connector	Color/Pins		Description
B1	W/12	:	To B105
B2	W/8	:	To B106
B5	W/3	:	Heated seat LH
B6	W/6	:	Wiper deicer switch
B7	W/4	:	Heated seat switch LH
B8	L/4	:	Heated seat switch RH
B9	W/3	:	Ashtray illumination
B10	B/1	:	Parking brake switch
B11	W/8	:	A/T device
B12	W/8	:	A/T mode switch
B15	W/3	:	Heated seat RH
B16	W/3	:	Seat belt buckle switch
B19	SMJ	:	To M20
B20	B/3	:	Front door switch (Driver side)
B22	Y/2	:	Seat belt pre-tensioner (Driver side)
B23	–	:	Body ground
B26	W/16	:	CD auto changer
B29	W/6	:	To D81
B30	BR/6	:	Rear combination lamp LH
B31	BR/2	:	Rear speaker LH
B33	BR/2	:	G sensor (For Europe with ABS)
B34	GY/2	:	G sensor (With ABS)
B35	GY/8	:	To C1
B36	SB/6	:	To C3
B37	SB/8	:	To C2
B40	W/6	:	Cool box
B41	B/2	:	Power socket
B42	L/4	:	Power socket relay
B52	W/2	:	Diode-1 } (A/T models)
B53	W/2	:	Diode-2 } (A/T models)

Diode-1 B52



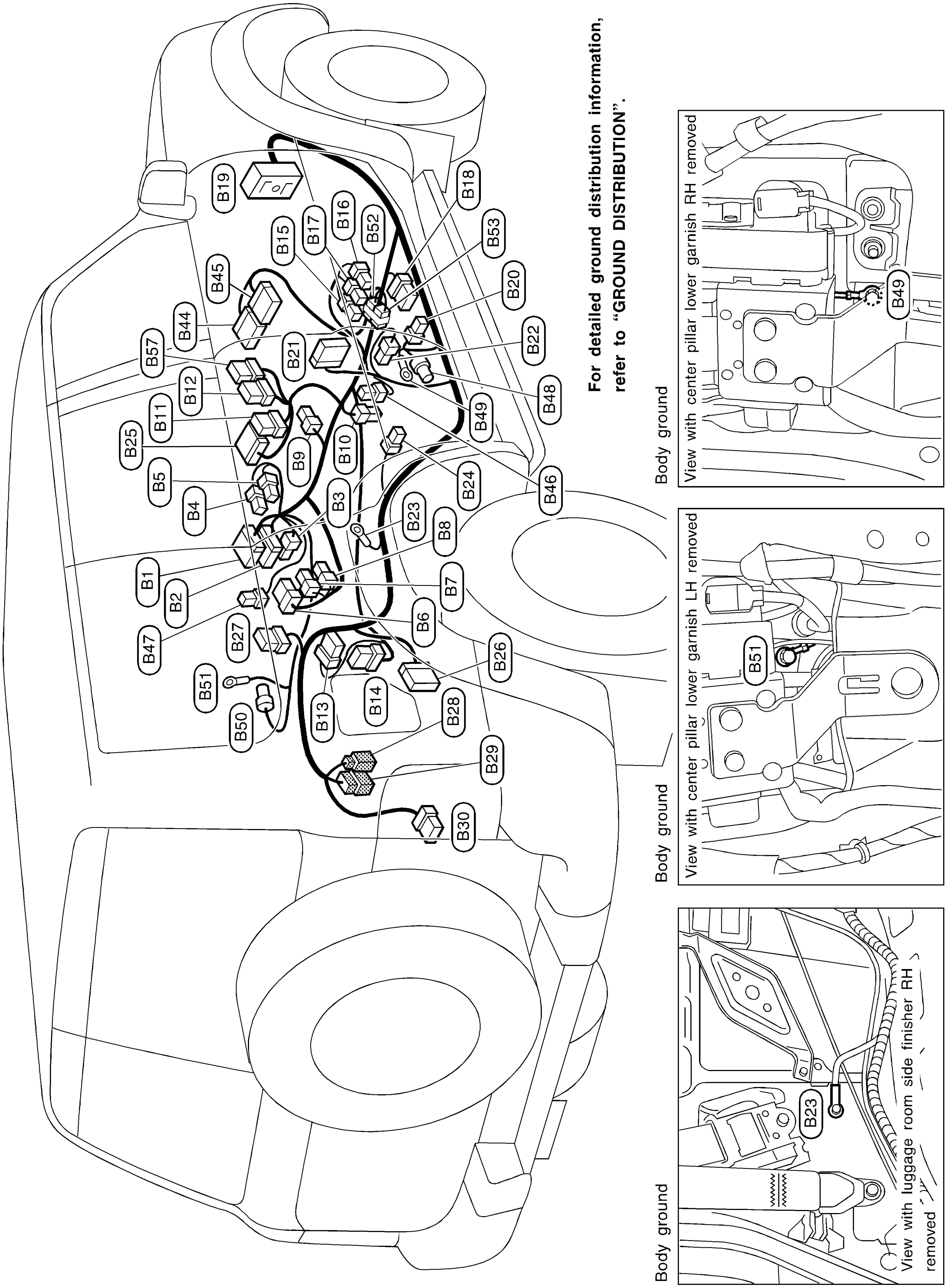
Diode-2 B53



CEL257M

Body Harness/RHD Models

WAGON

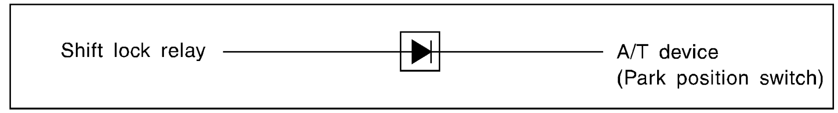


CEL348M

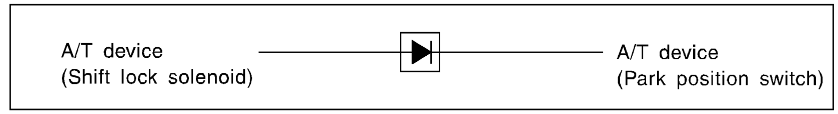
Body Harness/RHD Models (Cont'd)

Connector	Wire/Pins		Description
B1	W/12	:	To B105
B2	W/10	:	To B106
B3	W/4	:	To B130
B4	W/2	:	Power seat (Passenger side)
B5	W/3	:	Heated seat LH
B6	W/6	:	Wiper deicer switch
B7	W/4	:	Heated seat switch LH
B8	L/4	:	Heated seat switch RH
B9	W/3	:	Ashtray illumination
B10	B/1	:	Parking brake switch
B11	W/8	:	A/T device (ZD engine models)
B12	W/8	:	A/T mode switch (ZD engine A/T models with A/T mode switch)
B13	W/6	:	Rear cooler switch
B14	W/6	:	Rear fan switch
B15	W/3	:	Heated seat RH
B16	W/3	:	Seat belt buckle switch
B17	W/2	:	Power seat (Driver side)
B18	W/6	:	Rear heater unit
B19	SMJ	:	To M20
B20	B/3	:	Front door switch (Driver side)
B21	W/18	:	To D61
B22	Y/2	:	Seat belt pre-tensioner (Driver side)
B23	–	:	Body ground
B24	BR/1	:	Rear door switch RH
B25	W/12	:	A/T device (TB48 engine A/T models)
B26	W/16	:	CD auto changer
B27	B/8	:	Rear wiper amp.
B28	BR/1	:	To D102
B29	W/6	:	To D101
B30	BR/6	:	Rear combination lamp RH
B44	Y/12	:	Air bag diagnosis sensor unit
B45	Y/12	:	Air bag diagnosis sensor unit
B46	Y/2	:	Side air bag module RH
B47	Y/2	:	Side air bag module LH
B48	Y/2	:	Satellite sensor RH
B49	–	:	Body ground
B50	Y/2	:	Satellite sensor LH
B51	–	:	Body ground
B52	W/2	:	Diode-1 } (A/T models)
B53	W/2	:	Diode-2 } (A/T models)
B57	W/8	:	Snow mode switch (TB48 engine A/T models with snow mode switch)

Diode-1 B52

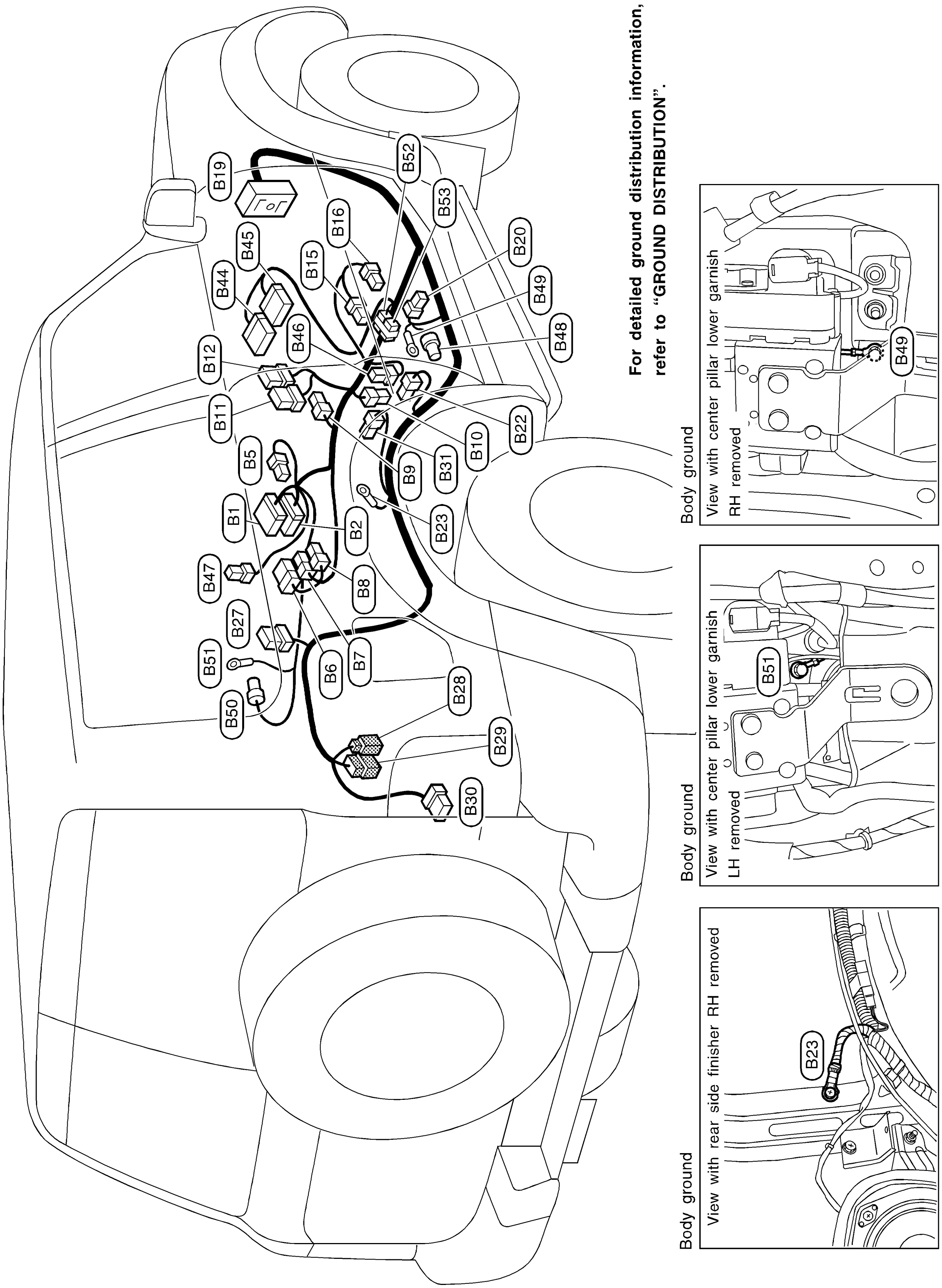


Diode-2 B53



CEL349M

HARDTOP

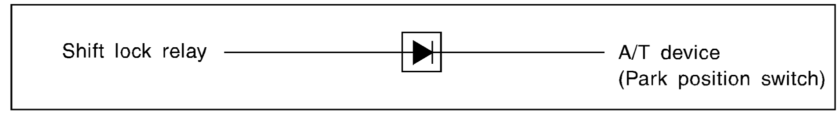


CEL260M

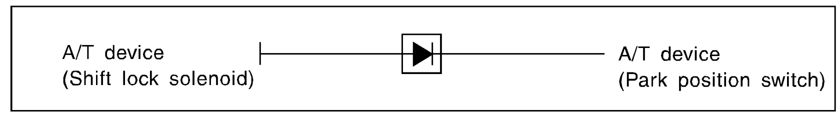
Body Harness/RHD Models (Cont'd)

Connector	Wire		Description
B1	W/12	:	To B105
B2	W/10	:	To B106
B5	W/3	:	Heated seat LH
B6	W/6	:	Wiper deicer switch
B7	W/4	:	Heated seat switch LH
B8	L/4	:	Heated seat switch RH
B9	W/3	:	Ashtray illumination
B10	B/1	:	Parking brake switch
B11	W/8	:	A/T device
B12	W/8	:	A/T mode switch
B15	W/3	:	Heated seat RH
B16	W/3	:	Seat belt buckle switch
B19	SMJ	:	To M20
B20	B/3	:	Front door switch (Driver side)
B22	Y/2	:	Seat belt pre-tensioner (Driver side)
B23	–	:	Body ground
B27	B/8	:	Rear wiper amp.
B28	BR/1	:	To D102
B29	W/6	:	To D101
B30	BR/6	:	Rear combination lamp RH
B31	BR/2	:	Rear speaker RH
B44	Y/12	:	Air bag diagnosis sensor unit
B45	Y/12	:	Air bag diagnosis sensor unit
B46	Y/2	:	Side air bag module RH
B47	Y/2	:	Side air bag module LH
B48	Y/2	:	Satellite sensor RH
B49	–	:	Body ground
B50	Y/2	:	Satellite sensor LH
B51	–	:	Body ground
B52	W/2	:	Diode-1 (A/T models)
B53	W/2	:	Diode-2 (A/T models)

Diode-1 B52



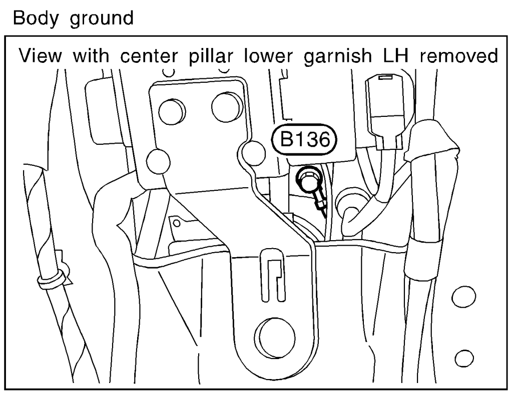
Diode-2 B53

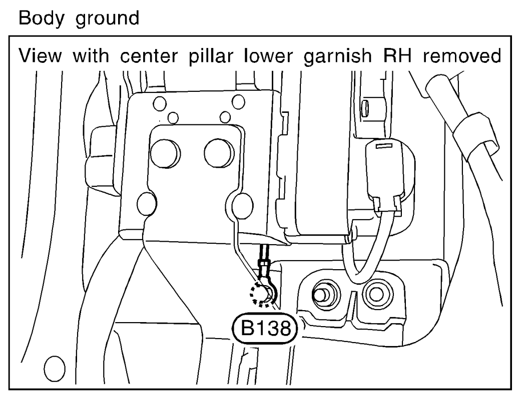


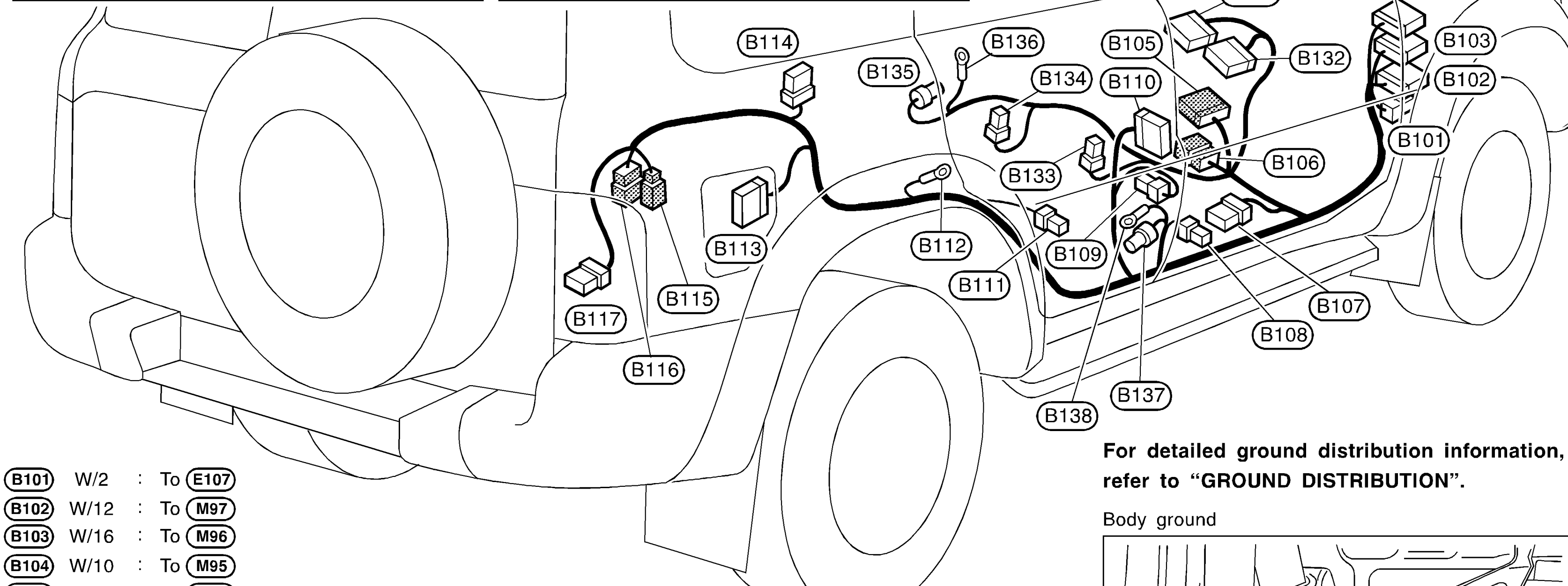
CEL261M

Body No. 2 Harness/LHD Models

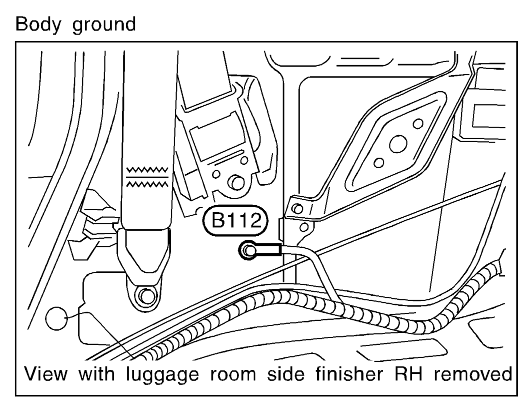
WAGON







For detailed ground distribution information, refer to "GROUND DISTRIBUTION".

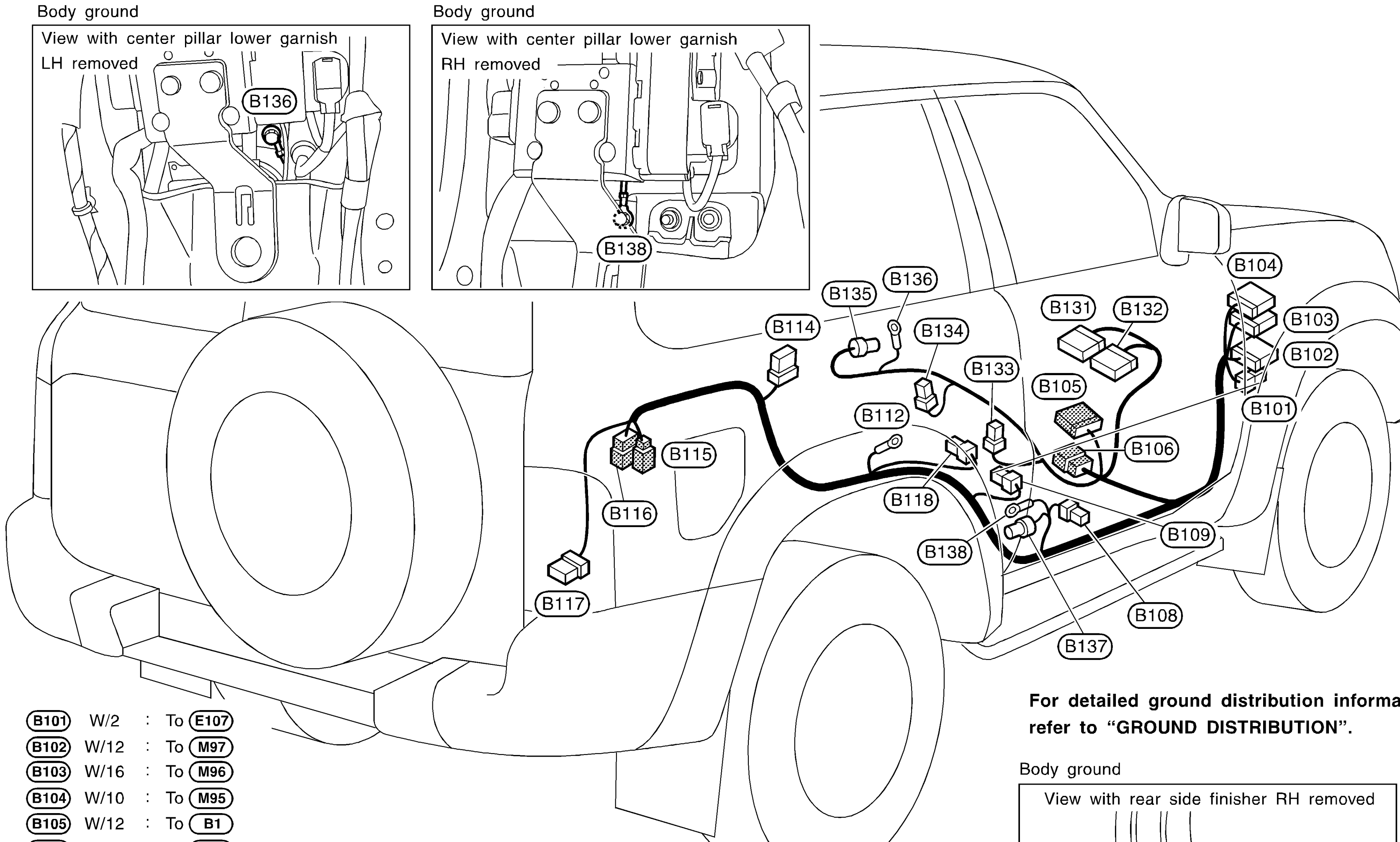


Connector	Color/Pins		Destination
B101	W/2	:	To E107
B102	W/12	:	To M97
B103	W/16	:	To M96
B104	W/10	:	To M95
B105	W/12	:	To B1
B106	W/8	:	To B2
B107	W/6	:	Rear heater unit
B108	BR/1	:	Front door switch (Passenger side)
B109	Y/2	:	Seat belt pre-tensioner (Passenger side)
B110	W/18	:	To D61
B111	BR/1	:	Rear door switch RH
B112	–	:	Body ground
B113	W/16	:	CD auto changer
B114	B/8	:	Rear wiper amp.
B115	BR/1	:	To D102
B116	W/6	:	To D101
B117	BR/6	:	Rear combination lamp RH
B131	Y/12	:	Air bag diagnosis sensor unit
B132	Y/12	:	Air bag diagnosis sensor unit
B133	Y/2	:	Side air bag module RH
B134	Y/2	:	Side air bag module LH
B135	Y/2	:	Satellite sensor LH
B136	–	:	Body ground
B137	Y/2	:	Satellite sensor RH
B138	–	:	Body ground

CEL262M

Body No. 2 Harness/LHD Models (Cont'd)

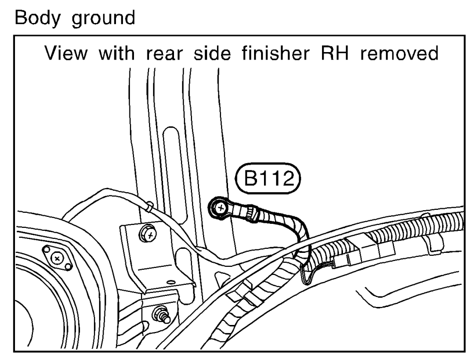
HARDTOP



B101	W/2	:	To E107
B102	W/12	:	To M97
B103	W/16	:	To M96
B104	W/10	:	To M95
B105	W/12	:	To B1
B106	W/8	:	To B2
B108	BR/1	:	Front door switch (Passenger side)
B109	Y/2	:	Seat belt pre-tensioner (Passenger side)
B112	–	:	Body ground
B114	B/8	:	Rear wiper amp.
B115	BR/1	:	To D102
B116	W/6	:	To D101
B117	BR/6	:	Rear combination lamp RH
B118	BR/2	:	Rear speaker RH

B131	Y/12	:	Air bag diagnosis sensor unit
B132	Y/12	:	Air bag diagnosis sensor unit
B133	Y/2	:	Side air bag module RH
B134	Y/2	:	Side air bag module LH
B135	Y/2	:	Satellite sensor LH
B136	–	:	Body ground
B137	Y/2	:	Satellite sensor RH
B138	–	:	Body ground

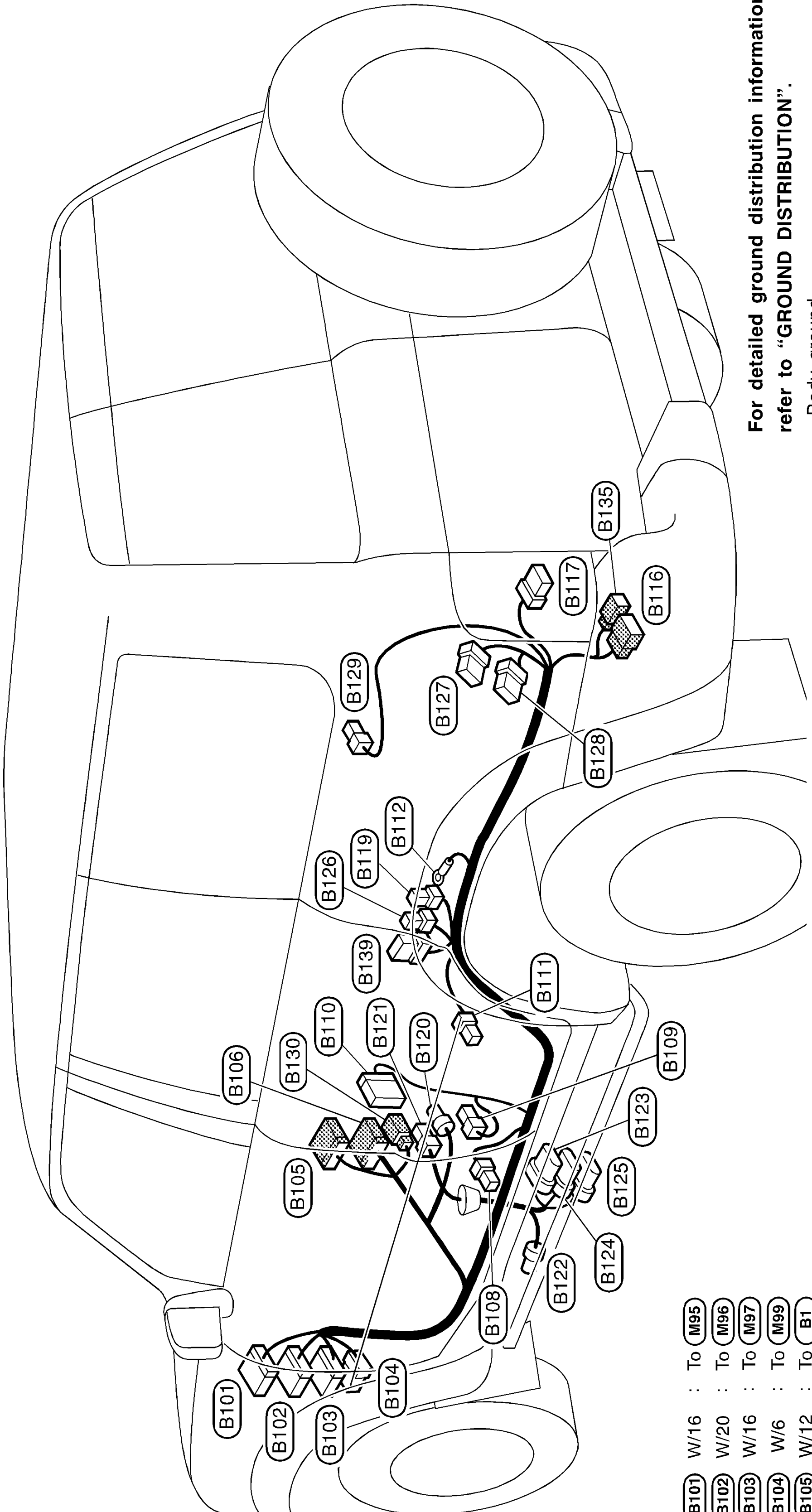
For detailed ground distribution information, refer to "GROUND DISTRIBUTION".



CEL263M

Body No. 2 Harness/RHD Models

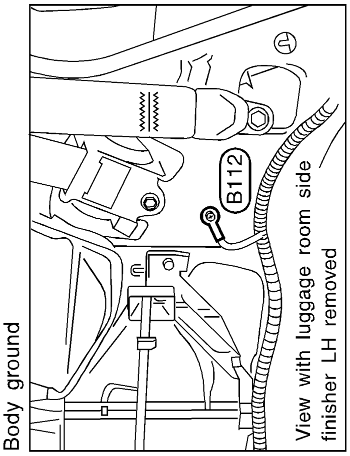
WAGON



Connector	Color/Pins		Description
B101	W/16	:	To M95
B102	W/20	:	To M96
B103	W/16	:	To M97
B104	W/6	:	To M99
B105	W/12	:	To B1
B106	W/10	:	To B2
B108	BR/1	:	Front door switch (Passenger side)
B109	Y/2	:	Seat belt pre-tensioner (Passenger side)
B110	W/18	:	To D41
B111	BR/1	:	Rear door switch LH
B112	–	:	Body ground
B116	W/6	:	To D81
B117	BR/6	:	Rear combination lamp LH
B119	L/4	:	Rear cooler cut relay (TB48 engine models with rear cooler)
B120	BR/2	:	G sensor (For Europe with ABS)
B121	GY/2	:	G sensor (With ABS)
B122	GY/2	:	Rear cooler solenoid valve
B123	GY/8	:	To C1
B124	SB/6	:	To C3
B125	SB/8	:	To C2
B126	L/4	:	Power socket relay
B127	W/8	:	Rear cooler unit
B128	B/6	:	Rear cooler unit
B129	B/2	:	Power socket
B130	W/4	:	To B3
B135	W/4	:	To D87 (With theft warning system)
B139	BR/6	:	Multi-remote control relay (With theft warning system)

For detailed ground distribution information, refer to "GROUND DISTRIBUTION".

Body ground

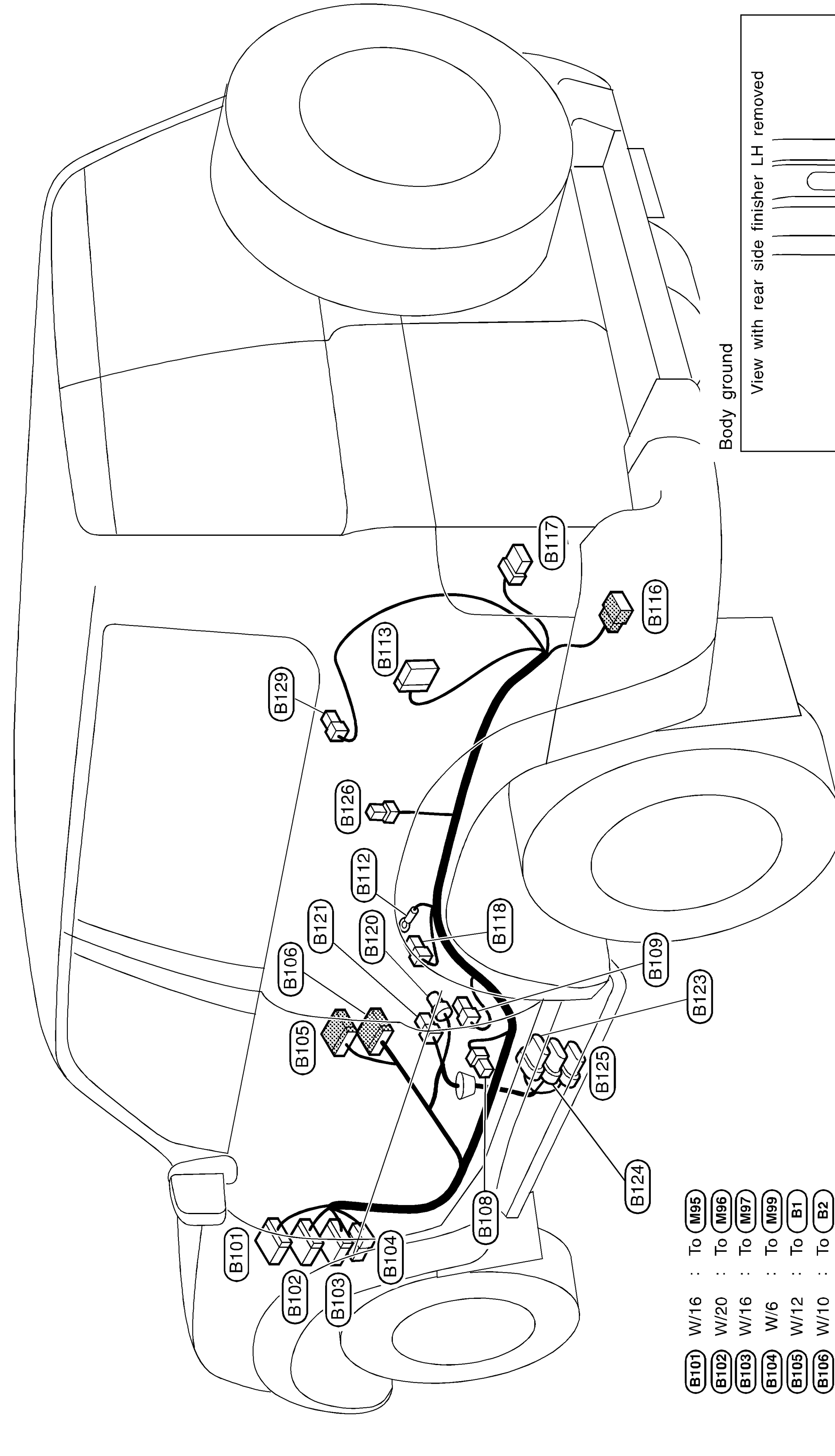


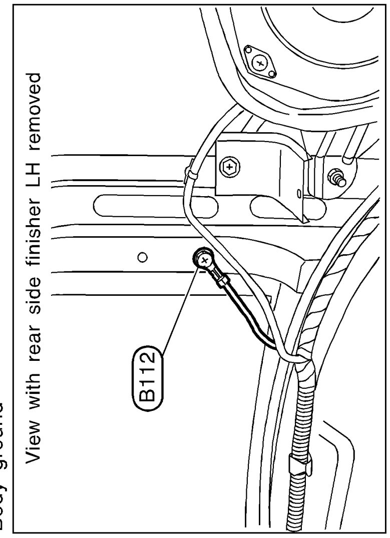
View with luggage room side finisher LH removed

CEL350M

Body No. 2 Harness/RHD Models (Cont'd)

HARDTOP





B101	W/16	:	To M95
B102	W/20	:	To M96
B103	W/16	:	To M97
B104	W/6	:	To M99
B105	W/12	:	To B1
B106	W/10	:	To B2
B108	BR/1	:	Front door switch (Passenger side)
B109	Y/2	:	Seat belt pre-tensioner (Passenger side)
B112	–	:	Body ground
B113	W/16	:	CD autochanger
B116	W/6	:	To D81
B117	BR/6	:	Rear combination lamp LH
B118	BR/2	:	Rear speaker LH
B120	BR/2	:	G sensor (For Europe with ABS)
B121	GY/2	:	G sensor (With ABS)
B123	GY/8	:	To C1
B124	SB/6	:	To C3
B125	SB/8	:	To C2
B126	L/4	:	Power socket relay
B129	B/2	:	Power socket

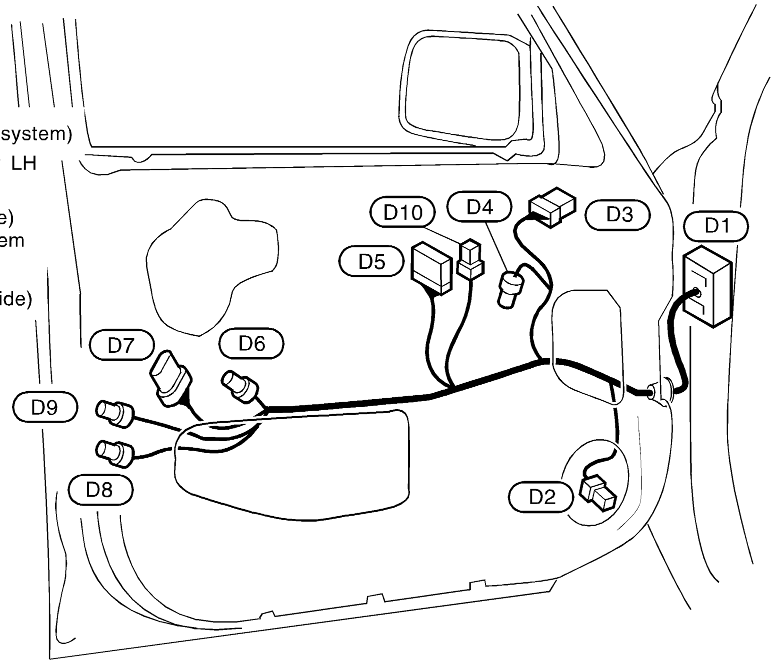
For detailed ground distribution information, refer to "GROUND DISTRIBUTION".

CEL265M

Front Door Harness (Driver side)

LHD MODELS

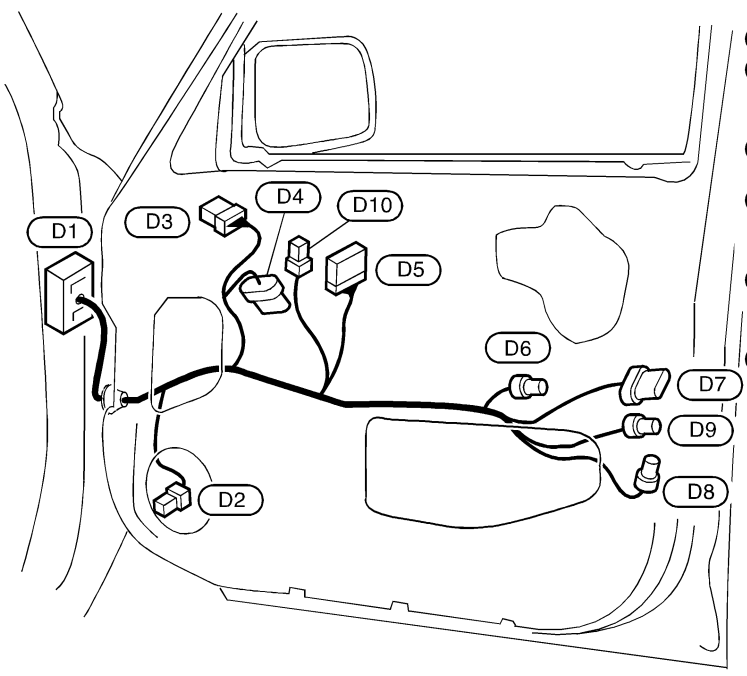
D1	SMJ	:	To M22
D2	BR/2	:	Front door speaker LH
D3	W/8	:	Door mirror (Driver side)
D4	GY/6	:	Front power window regulator (Driver side)
D5	W/16	:	Power window main switch
D6	BR/3	:	Front door key cylinder switch (Driver side) (With super lock or theft warning system)
D7	B/6	:	Front door lock actuator assembly LH (With super lock)
D8	GY/2	:	Front door lock switch (Driver side) (Without multi-remote control system except for with super lock)
D9	GY/4	:	Front door lock actuator (Driver side) (With multi-remote control system except for with super lock)
D10	W/3	:	Power window main switch (Wagon models)



CEL351M

RHD MODELS

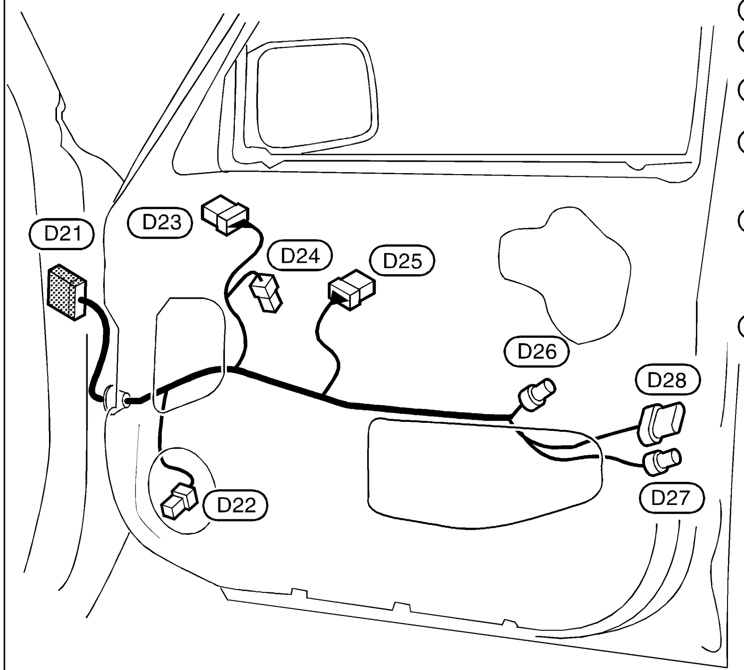
D1	SMJ	:	To M22
D2	BR/2	:	Front door speaker RH
D3	W/8	:	Door mirror (Driver side)
D4	GY/6	:	Front power window regulator (Driver side)
D5	W/16	:	Power window main switch
D6	BR/3	:	Front door key cylinder switch (Driver side) (With super lock or theft warning system)
D7	B/6	:	Front door lock actuator assembly RH (With super lock)
D8	GY/2	:	Front door lock switch (Driver side) (Without multi-remote control system except for with super lock)
D9	GY/4	:	Front door lock actuator (Driver side) (With multi-remote control system except for with super lock)
D10	W/3	:	Power window main switch (Wagon models)



CEL352M

Front Door Harness (Passenger side)

LHD MODELS

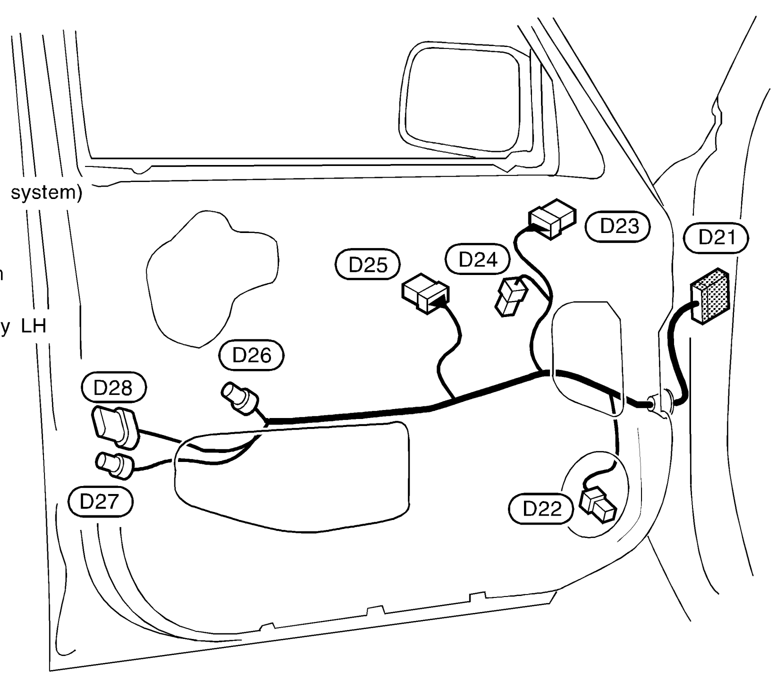


Connector	Color/Pins		Description
D21	W/18	:	To M84
D22	BR/2	:	Front door speaker RH
D23	W/8	:	Door mirror (Passenger side)
D24	B/2	:	Front power window regulator (Passenger side)
D25	W/8	:	Front power window switch (Passenger side)
D26	BR/3	:	Front door key cylinder switch (Passenger side) (With super lock or theft warning system)
D27	GY/4	:	Front door lock actuator (Passenger side) (With multi-remote control system except for with super lock)
D28	B/6	:	Front door lock actuator assembly RH (With super lock)

CEL353M

RHD MODELS

Connector	Color/Pins		Description
D21	W/18	:	To M84
D22	BR/2	:	Front door speaker LH
D23	W/8	:	Door mirror (Passenger side)
D24	B/2	:	Front power window regulator (Passenger side)
D25	W/8	:	Front power window switch (Passenger side)
D26	BR/3	:	Front door key cylinder switch (Passenger side) (With super lock or theft warning system)
D27	GY/4	:	Front door lock actuator (Passenger side) (With multi-remote control system except for with super lock)
D28	B/6	:	Front door lock actuator assembly LH (With super lock)



CEL354M

Back Door Harness and Rear Window Defogger Harness

BACK DOOR HARNESS LH

- D81 W/6 : To B29 (LHD models) / To B116 (RHD models)
- D82 W/2 : License plate lamp
- D83 – : Body ground
- D84 BR/1 : To D133
- D85 BR/1 : Back door switch LH
- D86 GY/4 : Back door lock actuator
- D87 W/4 : To B55 (LHD models) / To B135 (RHD models) (With theft warning system)
- D88 BR/3 : Back door key cylinder switch (With theft warning system)

BACK DOOR HARNESS RH

- D101 W/6 : To B116 (LHD models) / To B29 (RHD models)
- D102 BR/1 : To B115 (LHD models) / To B28 (RHD models)
- D103 BR/1 : To D121
- D104 W/2 : High-mounted stop lamp
- D105 W/4 : Rear wiper motor
- D106 – : Body ground
- D107 W/3 : Back door switch RH

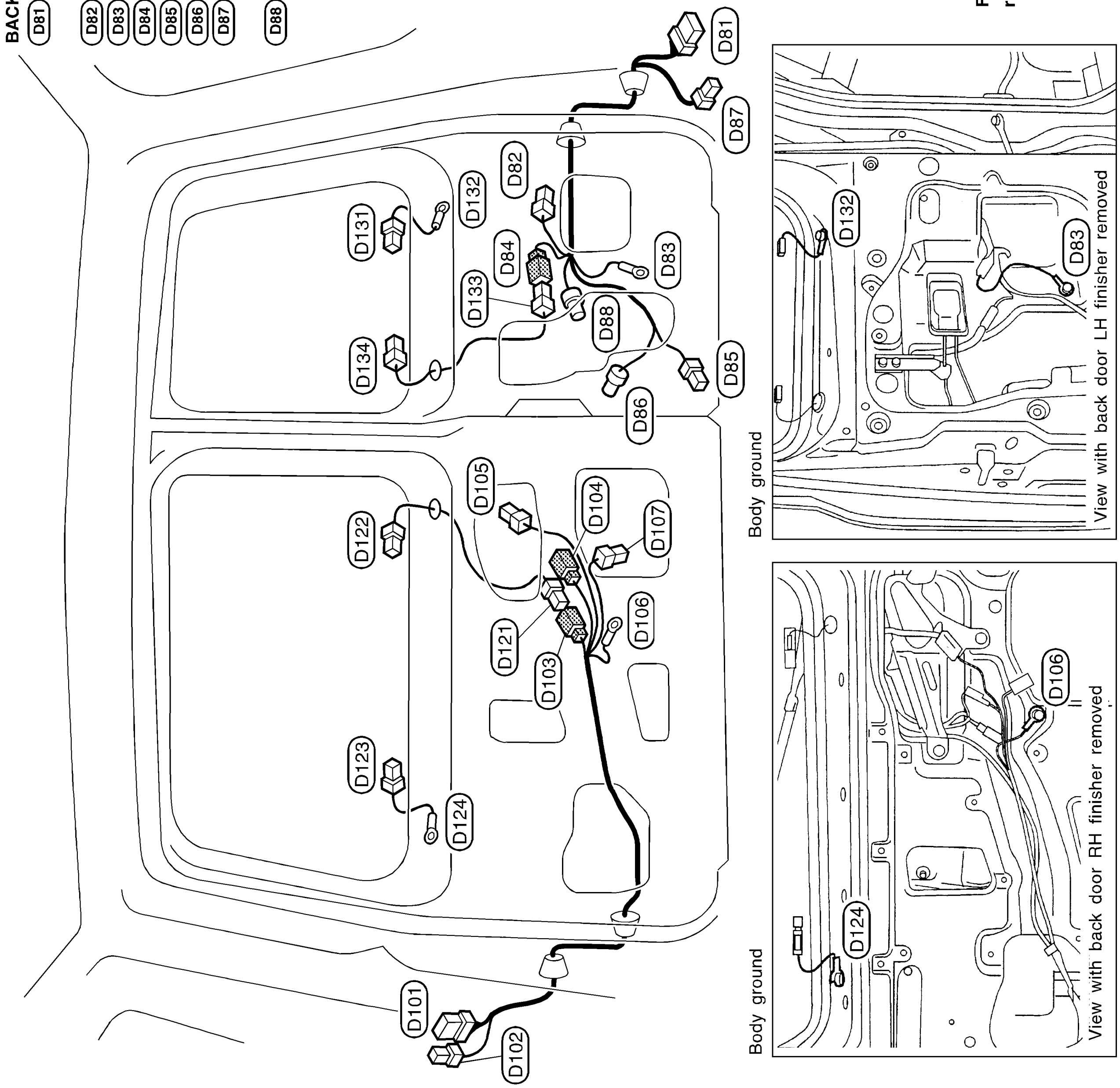
REAR DEFOGGER HARNESS RH

- D121 BR/1 : To D103
- D122 B/1 : Rear window defogger RH (+)
- D123 B/1 : Rear window defogger RH (–)
- D124 – : Body ground

REAR DEFOGGER HARNESS LH

- D131 B/1 : Rear window defogger LH (–)
- D132 – : Body ground
- D133 BR/1 : To D84
- D134 B/1 : Rear window defogger LH (+)

For detailed ground distribution information, refer to “GROUND DISTRIBUTION”.

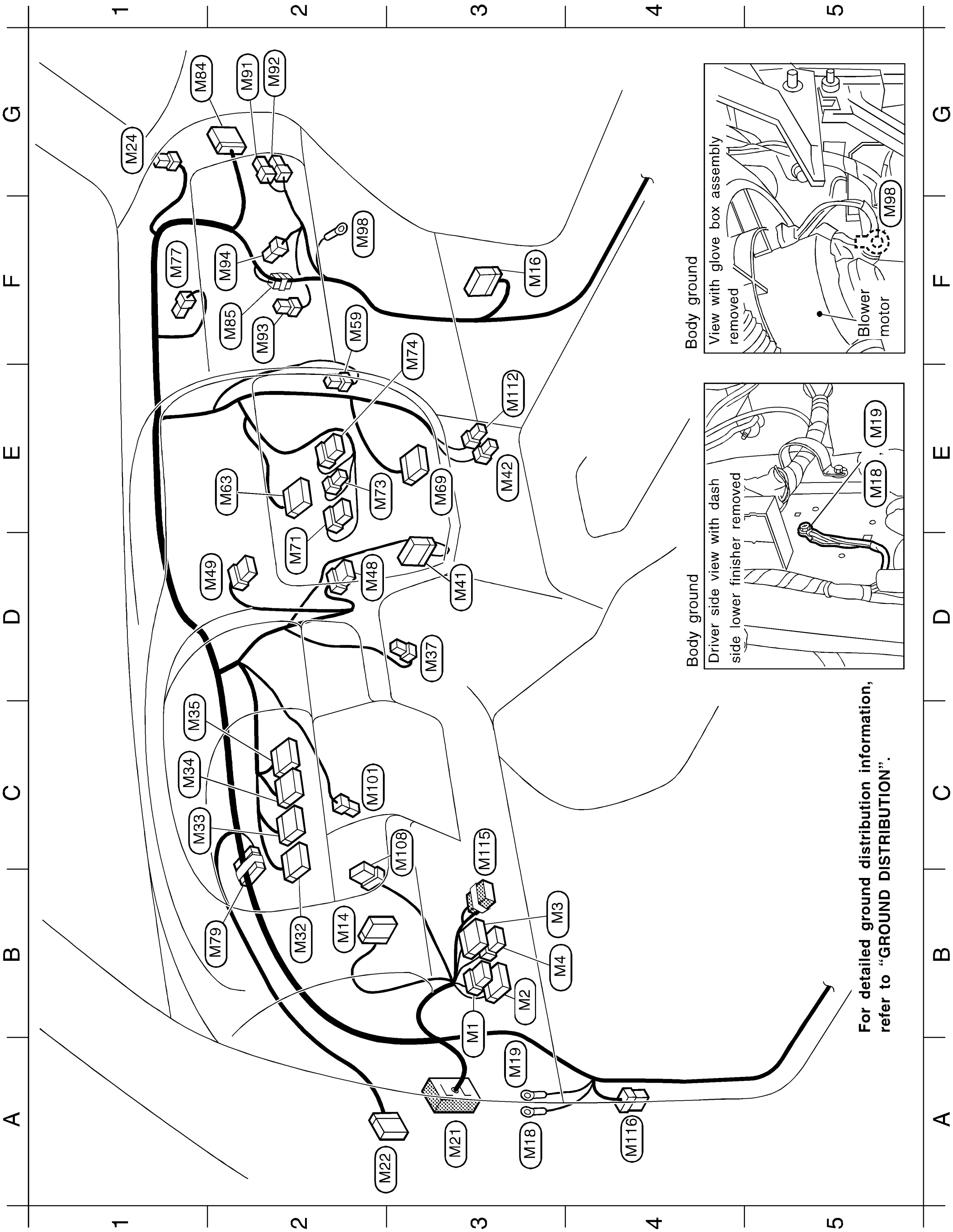


CEL355M

NOTE

Main Harness

INSTRUMENT PANEL

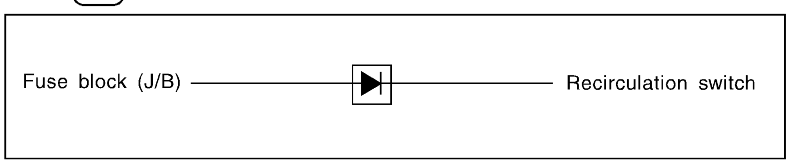


CEL175M

Main Harness (Cont'd)

Location	Connector	Type		Description
B3	M1	W/8	:	Fuse block (J/B)
B3	M2	BR/16	:	Fuse block (J/B)
B3	M3	GY/16	:	Fuse block (J/B)
B3	M4	GY/8	:	Fuse block (J/B)
B2	M14	GY/12	:	Door mirror remote control switch (With power door mirror)
F3	M16	W/12	:	Glow control unit (Diesel engine models)
A3	M18	–	:	Body ground
A3	M19	–	:	Body ground
A3	M21	SMJ	:	To E127
A2	M22	W/18	:	To D1
G1	M24	W/4	:	To R1
B2	M32	W/10	:	Combination meter
C1	M33	BR/16	:	Combination meter
C1	M34	W/16	:	Combination meter
C1	M35	W/10	:	Combination meter
D3	M37	B/3	:	Combination flasher unit
D3	M41	W/18	:	Smart entrance control unit
E3	M42	B/2	:	Cigarette lighter
D2	M48	BR/6	:	Sub fuel tank switch
D2	M49	W/8	:	Hazard switch
F2	M59	W/3	:	Thermo control amp.
E2	M63	W/10	:	Radio or radio and cassette player
E3	M69	BR/16	:	Sub fuel tank control unit
D2	M71	W/6	:	Fan switch
E2	M73	W/3	:	Fan switch illumination
F3	M74	W/8	:	Recirculation switch, A/C switch
F1	M77	W/4	:	Intake door motor
G1	M84	W/18	:	To D21
F2	M85	W/2	:	Diode
G2	M91	L/4	:	Power window relay
G2	M92	W/2	:	Circuit breaker-1
F2	M93	BR/4	:	Blower resistor
F2	M94	W/2	:	Blower motor
F2	M98	–	:	Body ground
C2	M101	B/2	:	Stop lamp switch
C3	M108	B/6	:	Front fog lamp switch
E3	M112	B/1	:	Cigarette lighter illumination
C3	M115	W/8	:	Check connector (Gasoline engine models)
A4	M116	W/6	:	Fuel pump control module (FPCM) (Gasoline engine models)

Diode M85

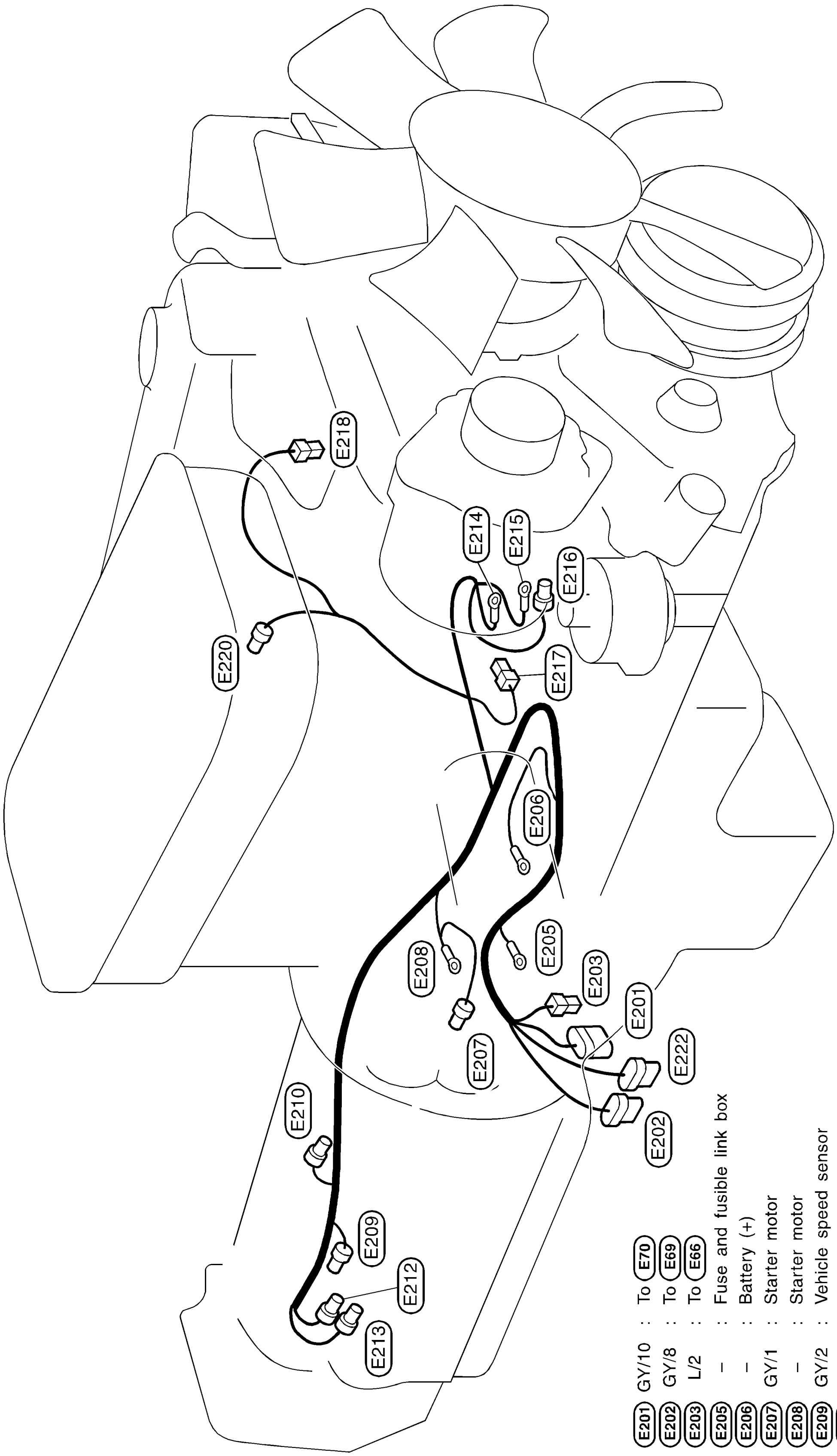


CEL176M

GI MA EM LC EC FE CL MT AT TF PD FA RA BR ST RS BT HA EL SE IDX

Engine Harness

TB45S ENGINE

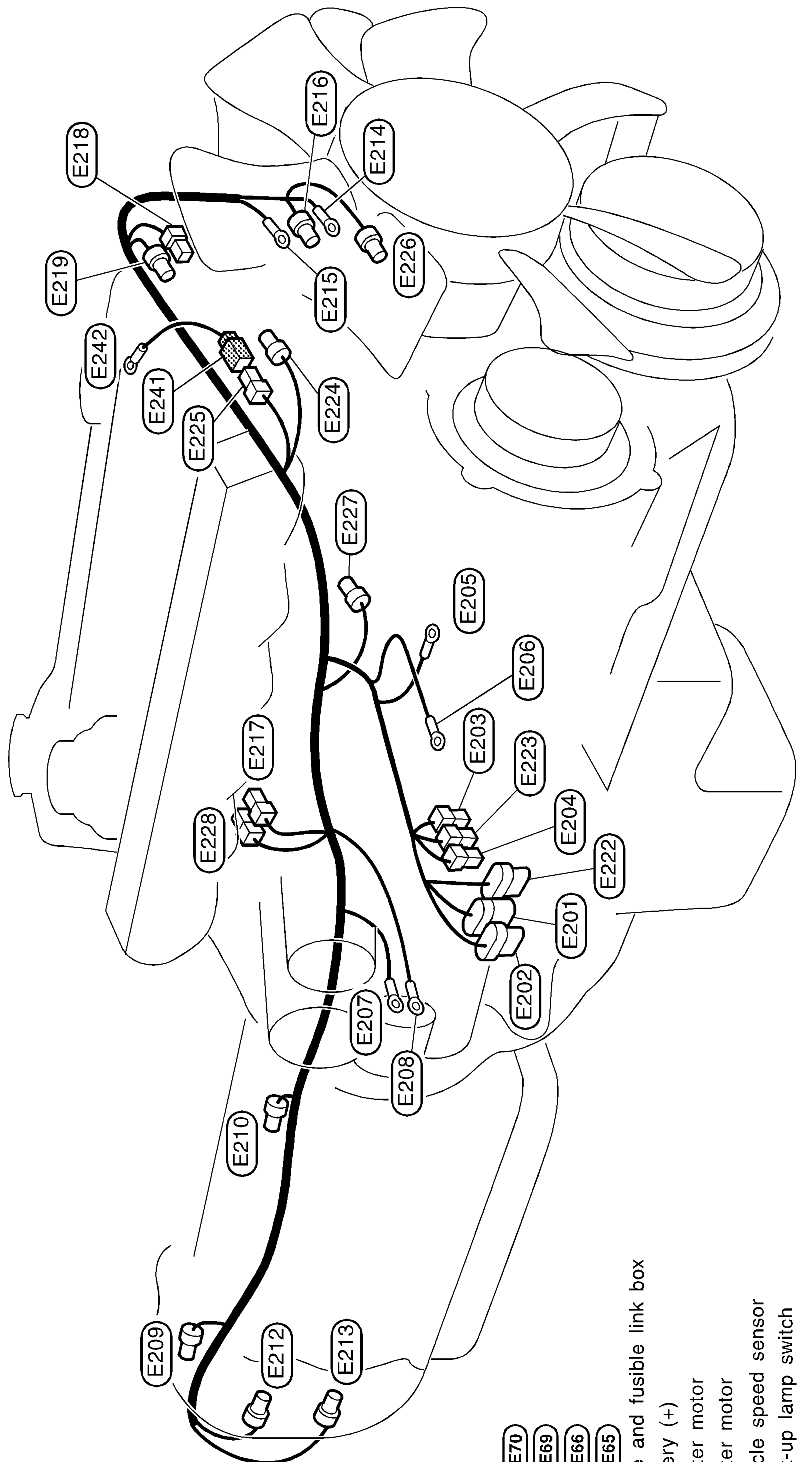


Connector	Color/Pins		Destination
E201	GY/10	:	To E70
E202	GY/8	:	To E69
E203	L/2	:	To E66
E205	–	:	Fuse and fusible link box
E206	–	:	Battery (+)
E207	GY/1	:	Starter motor
E208	–	:	Starter motor
E209	GY/2	:	Vehicle speed sensor
E210	GY/2	:	Back-up lamp switch
E212	GY/2	:	4WD switch
E213	BR/2	:	Transfer neutral switch
E214	–	:	Alternator
E215	–	:	Alternator
E216	GY/2	:	Alternator
E217	B/1	:	Oil pressure switch
E218	B/1	:	Thermal transmitter
E220	B/4	:	Carburetor
E222	SB/8	:	To E68

CEL266M

Engine Harness (Cont'd)

TD42 ENGINE



Engine harness

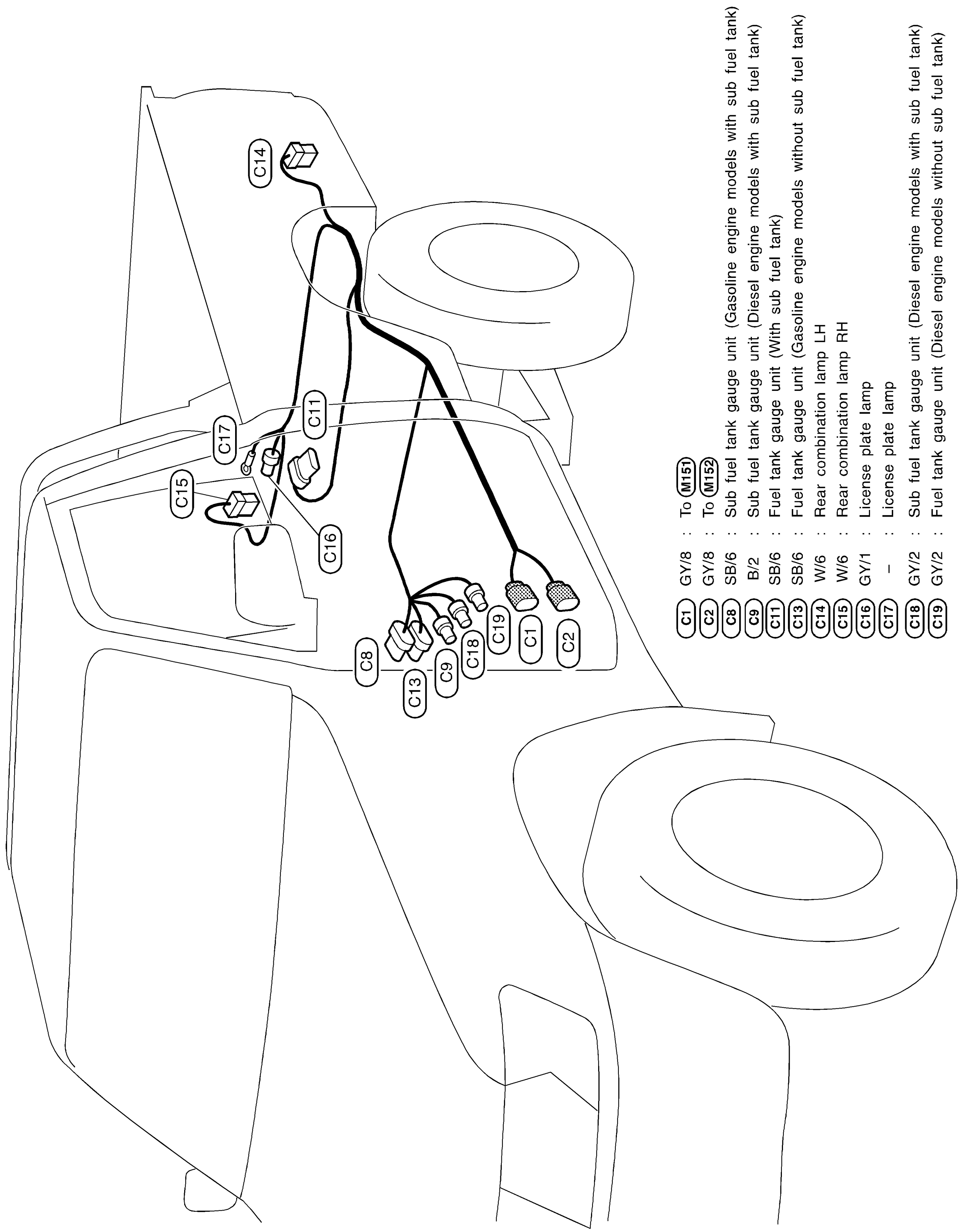
Connector	Color/Pins		Destination
E201	GY/10	:	To E70
E202	GY/8	:	To E69
E203	L/2	:	To E66
E204	B/2	:	To E65
E205	–	:	Fuse and fusible link box
E206	–	:	Battery (+)
E207	–	:	Starter motor
E208	–	:	Starter motor
E209	GY/2	:	Vehicle speed sensor
E210	GY/2	:	Back-up lamp switch
E212	GY/2	:	4WD switch
E213	BR/2	:	Transfer neutral switch
E214	–	:	Alternator
E215	–	:	Alternator
E216	GY/2	:	Alternator
E217	B/1	:	Oil pressure switch
E218	B/1	:	Thermal transmitter
E219	GY/2	:	Engine coolant temperature sensor
E222	SB/8	:	To E68
E223	R/2	:	To E67
E224	BR/2	:	Engine revolution sensor
E225	B/1	:	To E241
E226	B/1	:	Compressor
E227	GY/2	:	Injection pump
E228	B/2	:	Glow resistor

Glow sub-harness

Connector	Color/Pins		Destination
E241	B/1	:	To E225
E242	–	:	Glow plug

CEL267M

Chassis Harness



CEL268M

GI
MA
EM
LC
EC
FE
CL
MT
AT
TF
PD
FA
RA
BR
ST
RS
BT
HA
EL
SE
IDX

Wiring Diagram Codes (Cell Codes)

Use the chart below to find out what each wiring diagram code stands for.
Refer to the wiring diagram code in the alphabetical index to find the location (Page number) of each wiring diagram.

Code	Section	Wiring Diagram Name
A/C, A	HA	Auto Air Conditioner
A/C, M	HA	Manual Air Conditioner
A/CCUT	EC	Air Conditioner Control
A/T	AT	A/T
AAC/V	EC	IACV-AAC Valve
ABS	BR	Anti-lock Brake System
ACC/SW	EC	Accelerator Switch (F/C)
APS	EC	Accelerator Position Sensor
APPS	EC	Accelerator Pedal Position Sensor
ASCD	EL	Automatic Speed Control Device
AT/C	EC	A/T Control
AT/IND	EL	A/T Indicator Lamp
AUDIO	EL	Audio
BACK/L	EL	Back-up Lamp
BCDD	EC	BCDD System
BOOST	EC	Turbocharger Boost Sensor
BRK/SW	EC	Brake Switch Signal
CAN	AT	CAN Communication Line
CAN	EC	CAN Communication Line
CAN	EL	CAN Communication Line
CD/CHG	EL	CD Auto Changer
CHARGE	EL	Charging System
CHIME	EL	Warning Chime
CHOKE	EC	Automatic Choke
CIGAR	EL	Cigarette Lighter
CLOCK	EL	Clock
CMPS	EC	Camshaft Position Sensor
COMPAS	EL	Compass and Thermometer
COOL/B	HA	Cool Box
COOL/F	EC	Cooling Fan Control
CORNER	EL	Cornering Lamp
D/C	AT	Direct Clutch Solenoid Valve
D/LOCK	EL	Power Door Lock
DEICER	EL	Wiper Deicer
DEF	EL	Rear Window Defogger
DIFF/L	PD	Differential Lock Control System
DTRL	EL	Headlamp — With Daytime Light System

Code	Section	Wiring Diagram Name
E/BRE	AT	Low Coast Brake Solenoid Valve
ECMRLY	EC	ECM Relay
ECTS	EC	Engine Coolant Temperature Sensor
EGVC/V	EC	EGR Volume Control Valve
EPS	ST	Electric Controlled Power Steering System
F/FOG	EL	Front Fog Lamp
F/PUMP	EC	Fuel Pump
FR/B	AT	Front Brake Solenoid Valve
FCUT	EC	Fuel Cut System
FICD	EC	IACV-FICD Solenoid Valve
FIPOT	EC	ISC-FI Pot
FPCM	EC	Fuel Pump Control Module
FPSW1	AT	Pressure Switch 1 (FR/B)
FPSW3	AT	Pressure Switch 3 (I/C)
FPSW5	AT	Pressure Switch 5 (D/C)
FPSW6	AT	Pressure Switch 6 (HLR/C)
FTS	AT	A/T Fluid Temperature Sensor
GLOW	EC	Quick Glow System
H/AIM	EL	Headlamp Aiming Control System
H/LAMP	EL	Headlamp
HLR/C	AT	High and Low Reverse Clutch Sole-noid Valve
HEATUP	EC	Heat up Switch
HLC	EL	Headlamp Cleaner
HORN	EL	Horn
I/C	AT	Input Clutch Solenoid Valve
I/LOCK	AT	Solenoid Valve and Pressure Switch
IGN/SG	EC	Ignition Signal
IGN	EC	Ignition Control System
IGNSYS	EC	Ignition System
ILL	EL	Illumination
INJECT	EC	Injector
INJPMP	EC	Electronic Control Fuel Injection Pump
INT/V	EC	Intake Air Control Valve Control Solenoid Valve
IVC	EC	Intake Valve Timing Control Solenoid Valve
KS	EC	Knock Sensor

Wiring Diagram Codes (Cell Codes) (Cont'd)

Code	Section	Wiring Diagram Name
LC/B	AT	Low Coast Brake Solenoid Valve
LOAD	EC	Load Signal
LOAD/S	EL	Load Signal
LPSV	AT	Line Pressure Solenoid Valve
MAFS	EC	Mass Air Flow Sensor
MAIN	EC	Main Power Supply and Ground Circuit
METER	EL	Speedometer, Tachometer, Temp., Oil and Fuel Gauges
MIL/DL	EC	Mil and Data Link Connectors
MIRROR	EL	Door Mirror
MULTI	EL	Multi-remote Control System
MMSW	AT	Manual Mode Switch
NATS	EL	Nissan Anti-Theft System
NONDTC	AT	Non-detective Items
O2H1B1	EC	Heated Oxygen Sensor 1 Heater Bank 1
O2H1B2	EC	Heated Oxygen Sensor 1 Heater Bank 2
O2S1B1	EC	Heated Oxygen Sensor 1 Bank 1
O2S1B2	EC	Heated Oxygen Sensor 1 Bank 2
P/ANT	EL	Power Antenna
PGC/V	EC	EVAP Canister Purge Volume Control Solenoid Valve
PNP/SW	AT	Park/Neutral Position Switch
PNP/SW	EC	Park/Neutral Position Switch
POWER	AT	Transmission Control Module Power Supply
POWER	EC	ECM Power Supply For Back-up
POWER	EL	Power Supply Routing
PST/SW	EC	Power Steering Oil Pressure Switch
R/COOL	HA	Rear Cooler System
R/FOG	EL	Rear Fog Lamp
R/HEAT	HA	Rear Heater System
REMOTE	EL	Audio (Remote Control Switch)
ROOM/L	EL	Interior Room Lamp
S/SIG	EC	Start Signal
S/TANK	FE	Sub Fuel Tank Control System
SHIFT	AT	A/T Shift Lock System
SRS	RS	Supplemental Restraint System
STAB	RA	Rear Stabilizer Release Device Control System
START	EL	Starting System
STSIG	AT	Start Signal
SWL/V	EC	Swirl Control Valve Control Solenoid Valve
T/MTR	EC	Throttle Control Motor
TAIL/L	EL	Parking, License and Tail Lamps
TCV	AT	Torque Converter Clutch Solenoid Valve
THEFT	EL	Theft Warning System
TM/RLY	EC	Throttle Control Motor Relay
TP/SW	EC	Throttle Position Switch
TPS	EC	Throttle Position Sensor
TPSA/T	AT	Turbine Revolution Sensor
TRQ/SG	EC	Engine Torque Control Signal
TURN	EL	Turn Signal and Hazard Warning Lamps
VIAS/V	EC	Variable Induction Air Control System
VSS	EC	Vehicle Speed Sensor
VSSA/T	AT	Vehicle Speed Sensor A/T (Revolution Sensor)
WARN	EL	Warning Lamps
WIP/R	EL	Rear Wiper and Washer